

SENATE—Tuesday, September 22, 1987

The Senate met at 8 a.m. and was called to order by the Honorable PATRICK J. LEAHY, a Senator from the State of Vermont.

PRAYER

The Chaplain, the Reverend Richard C. Halverson, D.D., offered the following prayer:

Let us pray:

*Hear ye now what the Lord saith; * * * He hath shewed thee, O man, what is good; and what doth the Lord require of thee, but to do justly, and to love mercy, and to walk humbly with thy God?—Micah 6: 1 and 8.*

Holy God, Your words are plain and simple and basic. Where would we be without justice, kindness, and humility before You? Forgive us for the arrogance which elevates ourselves as though we are gods and have all the answers. Help us to see ourselves—to evaluate ourselves in the light of truth. Remind us of the terrible and tragic consequences in history when a society and its leadership abandon justice. Give to the leadership of our Nation a passion for righteousness and integrity. Deliver us from the destructive force of relative values and ethical anarchy. Make this a place dominated by unequivocal moral and ethical values. In the name of Jesus Christ—for the glory of God and the welfare of the people. Amen.

APPOINTMENT OF ACTING PRESIDENT PRO TEMPORE

The PRESIDING OFFICER. The clerk will please read a communication to the Senate from the President pro tempore [Mr. STENNIS].

The assistant legislative clerk read the following letter:

U.S. SENATE,
PRESIDENT PRO TEMPORE,
Washington, DC, September 22, 1987.

To the Senate:

Under the provisions of rule I, section 3, of the Standing Rules of the Senate, I hereby appoint the Honorable PATRICK J. LEAHY, a Senator from the State of Vermont, to perform the duties of the Chair.

JOHN C. STENNIS,
President pro tempore.

Mr. LEAHY thereupon assumed the chair as Acting President pro tempore.

RECOGNITION OF THE MAJORITY LEADER

The ACTING PRESIDENT pro tempore. Under the standing order, the distinguished Senator from West Virginia, the majority leader, is recognized.

THE JOURNAL

Mr. BYRD. Mr. President, I thank the Chair.

Mr. President, I ask unanimous consent that the Journal of proceedings be approved to date.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered.

THE CHAPLAIN'S PRAYER

Mr. BYRD. Mr. President, I thank our Chaplain for reading from the Book of Micah this morning and for his strengthening prayer: For "what doth the Lord require of Thee, but to do justly, and to love mercy, and to walk humbly with Thy God?"

BORK HEARINGS GOING WELL

Mr. BYRD. Mr. President, last week we celebrated the 200th anniversary of our Constitution, one of the greatest documents of its kind ever written by the hands of man.

Celebrations were held throughout the country, including an impressive ceremony on the steps of the Capitol.

But no celebration, however fervent or elaborate, could have been a more fitting tribute to the work of the framers than the discussions on the history and purpose of the Constitution that took place in the hearings on the nomination of Judge Robert Bork to be a Supreme Court Justice.

I commend our colleague from Delaware, Senator BIDEN, for the exemplary way in which he has been chairing these historic hearings. When Judge Bork was testifying, Senator BIDEN made sure that every member of the committee was given the opportunity to question the nominee at length, and he allowed Judge Bork to respond fully and to offer his own comments. The committee members kept their questions on a high plane, so that the issues discussed were those of principle, not personality.

For his part, Judge Bork handled himself with a combination of stamina, wit, and intelligence. He expressed his views with eloquence and considerable clarity, and he offered opinions on a broad spectrum of issues.

The result was not only what Judge Bork might term "an intellectual feast," but also an explanation to the American people of the fundamental principles behind our system of law. Part history lesson, part legalist seminar, and part debate, the hearings provided our citizens a rare opportunity to learn about the Constitution and the beauty of its application.

Reasonable men and women can and do differ about the merits of Judge Bork's nomination, and like many others in this body, I have not yet made up my mind. The hearings so far have been exemplary in their depth and breadth. They have been extremely helpful, I think, to all of us, and I am eager to follow them to their completion.

RESERVATION OF TIME

Mr. BYRD. Mr. President, I reserve the remainder of my time. I ask unanimous consent that the time of the Republican leader may be reserved.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered.

BICENTENNIAL MINUTE

SEPTEMBER 21, 1814: THE SENATE MEETS AFTER CAPITOL IS BURNED

Mr. DOLE. Mr. President, 173 years ago this week, September 21, 1814, marked the 3d day, of the 3d session, of the 14th Congress. An examination of the "Annals of Congress" reveals that something unusual was afoot. On the 21st, for example, a resolution passed without opposition authorizing Senate Sergeant-at-Arms Mount Joy Bayly "to employ one assistant and two horses." Why, in the fall of 1814, did the Senate suddenly find itself in need of assistants and horses? The answer lies in the fact that the Senators were not meeting in the Capitol Building, but in Blodgett's Hotel downtown.

The War of 1812 was still raging on American soil. Scarcely a month before, on August 24, the British had marched into Washington virtually unopposed, and had set fire to the Capitol. Only a torrential rainstorm prevented them from burning it to the ground. As it was, the dome and the roofs of both wings lay in ashes. Smoke-stained walls pierced by gaping holes where windows once had been, memorialized the Nation's humiliation. The new assistants and horses, along with other special provisions passed in the early days of this 1814 "special session," represent the Senate's efforts to try to get its affairs back in order.

For more than a year, the Senate met at "Blodgett's," with assistants and horses making frequent trips between the blackened Capitol and the old hotel. Then, in December 1815, the Congress moved to new quarters on Capitol Hill. Washington businessmen, eager to keep the Government in their

city, built a large red brick structure specifically to house the displaced Members on the site now occupied by the Supreme Court Building. Congress met in the "brick Capitol" for 4 years, until the Capitol across the street was refurbished in time for the opening of the 16th Congress in December 1819.

MORNING BUSINESS

The ACTING PRESIDENT pro tempore. Under the previous order, there will now be a period for the transaction of morning business not to extend beyond the hour of 8:30 a.m., Senators being permitted to speak therein for 5 minutes.

The Senator from Wisconsin.

CONGRESS' POPULAR AND CONSTITUTIONAL RIGHT IN FOREIGN POLICY

Mr. PROXMIRE. Mr. President, in this year of our celebration of the 200th birthday of the Constitution, the Senate has been vigorously debating on the floor of this body the respective constitutional authority of the President and the Congress in foreign policy. So what is the answer? Let us get right to it: In this era of failed Presidencies what constitutional right does the Congress have to act when the President commits such monumental foreign policy blunders as President Reagan. Think of it. Here is a President who authorized the sale of 2,000 deadly missiles to our Mideastern adversary, Iran. Why did he do it? Because he wanted to make a concession to a country that held our hostages. Did the Secretary of State not tell country after country that they should not sell arms to Iran? Did he not plead with them not to make concessions to terrorists? Did the President not solemnly announce as a cardinal tenet of his administration that this country would not make concessions to terrorists ever under any circumstances? Did the administration not also flatly violate the law—specifically the Boland amendment—by transferring millions of dollars from the sale of these missiles to the Contra rebels in Nicaragua? In these circumstances does the Congress have no constitutional recourse to intervene and struggle for the integrity of our foreign policy? Was the Congress wrong to move as it did to end Lyndon Johnson's failing foreign policy in Vietnam? Can the Congress only call the President to account as it did with President Nixon, President Johnson, and President Reagan after the failing policy, foreign or domestic, has been perpetrated?

Mr. President, all of us are proud that our country is a democracy. What does democracy mean? It means that whatever authority any of us—Senators, Congressmen, or even the Presi-

dent—wields we derive from the people. So how do the people of our country feel about the President and the Congress in foreign policy? Last November—well before the Iran Contra hearings, the New York Times and the Columbia Broadcasting System jointly polled a scientifically selected cross section of the American people on this issue. Here is the question they asked: Whom do you trust more in foreign policy, the Congress or the President? The public's answer: the Congress 61 percent, the President, 27 percent. Last July after the public phase of the hearings were winding to a conclusion, the New York Times and the Columbia Broadcasting System asked the same question again. This time the answer was almost identical: the Congress 60 percent, the President, 25 percent.

Now think about that popular response for a long minute. Can we interpret that response in any way except that the sovereign people in this democracy feel that the Congress must exert some substantial responsibility for foreign policy? Do you counter—but where is the constitutional authority? Do you say, "Sure we're a constitutional democracy. But does that mean the voice of the people is the voice of God?" No, it does not. Any action the Congress may take in foreign policy should be clearly on all fours with the Constitution.

So, what foreign policy discretion does the Constitution give the Congress? The answer is: Plenty. Above all, the Constitution gives the Congress firm power over the purse. Congress, not the President, has the full and final determination over how much we spend to carry out our foreign policy. A President, as Commander in Chief of all U.S. Armed Forces, takes military action. Congress must authorize the funds to pay for that military action. It can circumscribe those funds in any way it wishes. For example, if a President wishes to renounce an arms control agreement by building more missiles than the agreement permits, or be deploying a military system that the treaty forbids, he can only do so if he can persuade the Congress to appropriate the money necessary to perpetrate the violation. The Congress, for example, is free to maintain SALT II's limitation as long as our intelligence experts tell us that the Soviets are not violating the treaty. How does Congress enforce our compliance? Easy. Congress simply refuses to provide funding for the proposed violation. In the same way, the Congress can force the administration to abide by the ABM Treaty which forbids the deployment of a missile defense like SDI. How does Congress do it? Congress refuses to fund such a missile defense.

Is this constitutional? Of course, it is constitutional. As I have pointed out,

the Constitution gives the Congress, not the President; it gives the Congress control over Federal spending. So, there you have it. Both the people's will as expressed in reliable and respected public opinion polls and the Constitution attest to the competence and the right of the Congress to act in crucial foreign policy matters including compliance with arms control treaties.

Mr. President, I yield the floor.

PROGRESS TOWARD AN INF TREATY

Mr. BYRD. President Reagan has announced that Secretary of State Shultz and Soviet Foreign Minister Shevardnadze have reached "agreement in principle" on the basic outline of a treaty limiting intermediate range nuclear forces [INF]. A summit meeting between Mr. Reagan and Mr. Gorbachev, we hear, may occur later this fall. This means it is likely that an INF Treaty will be submitted to the Senate for the Senate's advice and consent to approve ratification sometime in the near future. Some progress is also reported on other arms control issues, such as nuclear testing.

These developments must be welcomed, and I do welcome them. But at the same time I believe we must not let progress on this one issue of United States-Soviet relations obscure the fact that there remain many important and difficult issues which will require attention.

First, let me comment on the prospective INF Treaty. This agreement is clearly likely to contain some valuable features. It will require the elimination—on a global basis—of one class of nuclear weapons. This has never occurred in the history of nuclear arms control. Second, the Soviet Union will agree to dismantle more nuclear warheads than the United States will destroy, helping to correct an imbalance caused by the Soviet buildup. These are positive developments.

The Senate of the United States will give the treaty, at the appropriate time, a careful and thorough examination. As I have noted on more than one occasion this week, the Senate is not a rubber stamp. Many Senators, and I certainly include myself in this group, will want to assure themselves about issues such as adequate verification, the support of our NATO allies, the implications for our defense policy in Europe, and the relationship of agreement on these issues to progress on the other arms control talks currently underway in Geneva, before advising ratification.

The enthusiasm some might feel over the fact that—after nearly 7 years—the Reagan administration may finally manage to reach an arms control agreement on these weapons

should not blind us to the very real problems which remain unresolved and, in my opinion, not seriously addressed, by this administration.

Let us not forget that while Mr. Shevardnadze was here in Washington talking about arms control in Europe, the Soviet Army remains in Afghanistan nearly 8 years after the Soviet invasion of that poor country doomed the last arms control treaty between the United States and the Soviet Union. I hope that Senators will remember this historical perspective as we examine the new treaty that comes to the Senate.

I also point out that while talk of arms reductions in Europe proceeds in Washington, in Europe itself, near Berlin, an American soldier was shot and wounded last week by a Soviet soldier. This is a grim reminder of past Soviet misconduct and the fact of continuing tensions.

The Secretary General of NATO, Lord Carrington, has cautioned against "euphoria" over the arms pact. He notes that it will require NATO to examine carefully all aspects of its defense policy. This is good advice, advice which all of us should keep in mind in the months ahead.

Mr. President, I suggest the absence of a quorum.

The ACTING PRESIDENT pro tempore. The clerk will call the roll.

The bill clerk proceeded to call the roll.

Mr. BYRD. Mr. President, I ask unanimous consent that the order for the quorum call be rescinded.

The ACTING PRESIDENT pro tempore. Without objection, it is so ordered.

DEEPER IN DEBT

Mr. BYRD. Mr. President, recently, we had more bad news on the international economic front. The second quarter figures for the United States current account reported a \$41 billion deficit—more than \$4 billion larger than the almost \$37 billion in red ink recorded in the first quarter. The total for the first 6 months has now passed the \$77 billion mark.

And this understates the problem, Mr. President. The current account figures for the first 6 months of the year do not contain the bad news from July's record \$16.5 billion trade deficit.

The current account, Mr. President, is the best measure of how the United States is faring in its transactions around the world. It includes the figures for trade in goods, the sale of internationally traded services, and pension checks sent to retired Americans living overseas.

There is another part of the current account that we often ignore, Mr. President. It records the earnings on a whole range of overseas investments owned by Americans. Foreigners earn

profits and interest from their American investments, but for many years, our overseas investments were so much larger than foreign investments in the United States that we had a healthy surplus of investment income.

Because we have become a debtor nation, Mr. President, that surplus is eroding. In 1981, the investment surplus was \$34 billion. By 1986, the surplus had slipped to \$20.8 billion. For the second quarter, the surplus shrank to \$1.6 billion. At that rate, Mr. President, the surplus on investment income will be a thing of the past by the end of the year.

The world's largest creditor has slipped from being the world's largest creditor to the world's largest debtor in the course of the last 5 years.

America first entered the creditors club during World War I and steadily built its overall investment position to a peak in excess of \$140 billion in 1981. Then, Mr. President the slide began. Early in 1985, we became a debtor nation. Late in 1985, we shouldered Brazil aside to become the world's largest debtor. By the end of 1986, our overall investment position was more than \$260 billion in the red. Our external debt is already larger than that of Brazil, Mexico, and Argentina combined. At the current rate, our debt will be well past the \$400 billion level by the end of the year. By the end of the decade, we could be approaching the \$1 trillion mark. The dance of debt, Mr. President, no longer has a strictly Latin beat.

For the past few years, the extent of our external debt problem has been obscured by our well established direct investments, which proved more profitable than more recent foreign investments in the United States. In some cases, foreign firms are still in the process of building their factories and digesting their American acquisitions. Exchange rates have also made a difference. Because the dollar has fallen against major currencies, overseas profits earned in marks and yen translate into a larger number of dollars.

But this grace period is just about over. Soon—next month or next quarter, certainly by early next year—we will begin to borrow money to pay interest on the money that we have already borrowed. We will have to sell more to the world just to stay even. When a family or a business finds itself in that position, it is in very serious financial straits.

Now there is nothing wrong, Mr. President, with borrowing money. The question is—what do you do with it? In the 19th century, a tide of foreign capital flowed into railroads and ranches and lifted the prosperity of the entire Nation. These were investments that paid dividends to foreign investors but also laid the foundation for the productive American economy.

Between 1981 and 1986, we have, in effect, borrowed \$400 billion from the rest of the world. Where has the money gone this time, Mr. President?

Not into productive investments. After allowing for depreciation, this country is investing about the same percentage of GNP today it has over the past 30 years. In 5 short years, we have frittered away an international credit position built up over more than six decades. And we have little to show for it. It has been a case of billions for the present and not a penny for the future.

And that future does not look promising. When we embarked on the tide of red ink, we started to sail on uncharted waters. Can we be the world's largest debtor and still be home to the world's principal reserve currency or will the yen or mark eclipse the dollar? Can we resist the temptation to simply print the dollars we owe to the rest of the world or will we ignite a new round of inflation? Can we lead the Western alliance one day and appear hat in hand looking to borrow the next. How can we have national security without economic security?

Without any national debate, without a thought for tomorrow, we have borrowed billions that our children must repay. Our once independent financial markets worry that European or Japanese investors might look elsewhere for investment opportunities. The administration wants to stand tall, Mr. President, but they are wearing borrowed boots. It is yet another example of the long-term costs of this administration's short sighted policies.

PRESIDENT OSCAR ARIAS SANCHEZ

Mr. BYRD. Mr. President, the distinguished and highly respected President of Costa Rica, Oscar Arias Sanchez, delivered an address in the House Chamber this morning which was a testimonial to the long history of unbroken democratic traditions in that nation. It was also an eloquent affirmation of his personal commitment to democracy, peaceful economic development in the Central American region, and an end to the debilitating influence of war and violence.

As my colleagues are all very much aware, it was the personal political initiative of President Arias, in bringing all five Central American countries together in Guatemala City in early August, which changed the current political landscape of that region. His vision of a framework for peace, including the need for all five countries to make political commitments and take political risks for peace, was embodied in the agreement signed in that city on August 7. No one can say that it will work, or that it will not work, or

how it will finally be realized, but without political will and good faith efforts to make his plan work, there will be little progress and there would be little prospect that the pattern of suspicion and bloodshed in the region will be broken.

Mr. President, the initiative taken by the Central American countries is commendable and we should encourage the good faith implementation of the plan which was decided upon. It is my hope that the full force of American influence and diplomatic efforts will be used to help realize the plan in its entirety, and that the democratization process will not only be revitalized in Nicaragua, but enhanced for Nicaragua's neighbors as well. El Salvador and Honduras and Guatemala are now democracies, but they have not always been so, and they are fragile democracies indeed. So this is a plan for the region as a whole, even though our particular focus is on the pattern of events as they unfold in Nicaragua.

I was, frankly, disappointed in President Reagan's approach to the situation in Central America, in the context of his address to the United Nations yesterday. The focus of his remarks was negative, emphasizing the Contra operation and downplaying the process of implementation of the Guatemalan peace accord on the eve of President Arias' visit to Washington. I understand he met with President Reagan this morning. I would have hoped that the President would have been positive and would have fully committed his administration to make the plan work. Instead, his comments seemed to imply that the United States is just an observer in this process, cheering on the sidelines for the Contras, judging in advance that actions by the Government of Nicaragua are phony. I urge the President to galvanize his administration to rethink its lukewarm and passive attitude toward the Guatemala City accords and support the actions by Presidents Arias, Duarte, Azcona, and Cerezo to make a breakthrough in Central America.

Mr. President, we are all concerned about not only the democratization of Nicaragua, but also the security relationship and involvement of the Soviet Union and Cuba in Nicaragua. I have long felt the administration should directly test the Sandinista government on its willingness to cut those ties, to remove Soviet bloc influence, end any question of Soviet bloc bases, cut off its umbilical cord of military assistance from those nations, and rejoin the hemisphere. The administration is eager to negotiate with the Soviet Union on arms control.

Its eagerness is apparent to everyone. The more meetings, the more agreements the better, it would seem. We can go the extra mile with the

Soviet Union, our chief adversary, but we cannot talk to the Sandinista government. Why not? The United States is not an observer in the dynamics of Central America. The United States is not a bit player. We are playing a major role. The Contras would atrophy and perish, it is said, without American aid.

Mr. President, we cannot dodge responsibility for what happens in Central America. We are involved. I urge the administration to call upon the Sandinista government to negotiate directly to resolve the major security questions which concern us all—and particularly the United States.

It is unfortunate that no mention was made of the commitment by the Sandinista government to allow *La Prensa*, the major opposition newspaper in Nicaragua, to operate immediately and without censorship. Here is a clear test for the Sandinista leadership. Will it permit free expression to again exist in Nicaraguan society? The announcement is certainly a welcome step in the right direction—one which we have all called for over the last year—and we now have the beginning of a measurable process in connection with the Guatemalan accords.

It is very unfortunate that the President chose to strike a flat negative tone in his remarks before the world body in New York yesterday.

The remarks by President Arias in the Chamber of the House this morning struck a vigorous positive theme. It is a good theme, in the American tradition. He said:

As we stand at the crossroads of peace and development or war poverty, we must not make the wrong choice, for neither you nor we can undertake this struggle separately. The struggle for peace in Central America is the historic struggle of democracies. Now, as never before, a time has come in history for the people of the United States and of Costa Rica to bring to bear the full power of the principles and values they share.

I commend the President of Costa Rica on his vision and his courage. I commend his speech to the reading of my colleagues.

I ask unanimous consent that the text of the speech may be printed in the RECORD.

There being no objection, the text of the speech was ordered to be printed in the RECORD, as follows:

LET'S GIVE PEACE A CHANCE

(By Oscar Arias, President of Costa Rica)

PRIDE OF A FREE PEOPLE

On behalf of a fellow democracy, I thank you for the invitation to speak here. I should like to say a special word of appreciation to the Speaker of the House of Representatives, the Honorable James Wright, for his constructive interest in peace and development, and to all those who are here today. Many of you are known to me personally. Some I have met during visits here, while others have talked with me in Costa Rica.

What a splendid opportunity it is to address Congress, where you sit as the freely-

elected representatives of your constituents. Surely parliament is the finest hall of freedom in a democracy, for it represents both the power of justice and the soul of a free people.

There is only one offense that can be committed here, and that is not to speak freely, sincerely and truthfully. So I have come to speak as a free man, with the same pride that you feel and with the freedom that makes all persons and nations equal. In 1921, the Costa Rican educator Joaquín García Monge said:

"Even small nations, if they are worthy, if they are not servile, if they are enlightened and hard working have the same right to freedom as any great nation. People, who rise up as one to defend their most cherished freedoms are possessed by the only true sacred passion."

Differences that do not separate us

There are any number of differences between this powerful nation and Costa Rica. Differences of size: Mine is one of the smallest countries and yours is one of the largest. Differences of population: my homeland has two and one-half million people; the United States, two hundred and fifty million. Differences of wealth: Fifteen hundred dollars per capita in my country; fifteen thousand in yours. Differences of armament: My country maintains no military establishment whatsoever; your Nation has found it necessary to maintain a powerful military force.

Yet none of these differences separates us. Not one alters our status as brothers in freedom. For the great nation you represent and Costa Rica share the most noble values won by mankind since the dawn of history: Democracy, freedom, respect for human rights, and the struggle for justice and for peace. We both believe in the wisdom of pluralism, and in the rule of law.

Our countries stand as equals, united by the values we hold dear and our efforts to put them into practice. I know that you want to share with us your finest achievements, just as we want to share with you our joy in liberty and the affection and hospitality of our people.

The dialog of friendship

The relationship between our two countries has been a model friendship. Whenever our century-old democracy has been threatened by an attempted coup or foreign invasion, the United States has always supported our cause. Whenever you have embarked on a crusade to defend the free world from totalitarianism, small Costa Rica has never hesitated to join you. There is not a single economic crisis in our history in which you have failed to extend to us a helping hand. Costa Rica is proud of its friendship with the United States of America, and proud to proclaim it to the entire world. We feel free to tell you exactly what we think, even though it might not be what you want to hear. You do much the same with us. This is the dialog of sincere friendship, a dialog unmarked by submission. A dialog in which we honestly seek a convergence of views.

The essence of my country

When President Ronald Reagan visited Costa Rica in December 1982, he cited in his speech these words of a distinguished Costa Rican president of the past century, José Joaquín Rodríguez:

"I am not impressed by hearing proclamations of great principles. What I admire is

the men who know how to put them into practice."

President Reagan added:

"Costa Rica is a proud example of a free people practicing the principles of democracy. And you have done so in good times and in bad, when it was easier and when it required great courage."

Costa Ricans appreciate these words. They express the essence of my country. For us, the real meaning of politics is the day-by-day struggle to translate vision into reality. I know you feel the same way. Indeed, this is perhaps the greatest treasure and the greatest privilege our two countries share.

Neither you nor we can rest knowing that freedom is threatened. Neither you nor we can rest knowing that the promises of democracy are not completely fulfilled, that there is still poverty and hunger. Neither you nor we will choose war when we can make peace. Neither you nor we will honor as heroes men who lie or cheat. Neither you nor we will refuse to look to a future that holds out a promise of more free men, more democracies, more justice and more peace. Neither you nor we can ever reject the hope that things will change for the better, that changes can occur wherever injustices exist or peace is threatened.

My small country

I belong to a small country that was not afraid to abolish its army in order to increase its strength. In my homeland you will not find a single tank, a single artillery piece, a single warship or a single military helicopter. In Costa Rica we are not afraid of freedom. We love democracy and respect the law. Our democracy has been in place for one hundred years; it is the oldest in Latin America and one of the oldest in the world. Development and peace with our neighbors are our highest goals.

We have made considerable progress in education, health, and nutrition. In all of these areas our levels are comparable to the best in Latin America. Although we are poor, we have so far been able to reach satisfactory social goals. This is largely because we have no arms expenditures and because the imbedded practice of democracy drives us to meet the needs of the people. Almost forty years ago we abolished our Army. Today we threaten no one, neither our own people nor our neighbors. Such threats are absent not because we lack tanks, but because there are few of us who are hungry, illiterate or unemployed.

The modern economy

During these years of persistent economic crisis, we Costa Ricans have realized that we need a modern economy. The basis for any lasting change, however, must be a guaranteed peace in Central America. In six years, regional trade has declined from one billion to four hundred million dollars. Only peace can restore that market. Equally serious have been the negative effects of the decline in investments and the increase in capital flight.

We are engaged in bringing about far-reaching changes in our productive structure, linked to a modern concept of economic and social development. Our political democracy will remain invulnerable only if we can create a more democratic economy. We seek to build a society of many proprietors rather than one vast proletariat. For as Daniel Webster said: "Power Naturally and Inevitably follows Property."

As we restructure the productive system, we must not lose sight of the social sensitivity.

This has been a hallmark of our history. We are a country of delicate balances deeply rooted in mutual respect. Some have been surprised that during difficult economic times we have been unwilling to abandon social programs. Make them more efficient and improve them, certainly. But dehumanize our economy, never. That is why we are currently launching a special program of low-cost housing, and have extended free medical coverage to the entire population. If we were to lose the solidarity we have been able to maintain despite our relative poverty, we would destroy the basis of our democratic co-existence.

To structure the new economy without endangering stability, we are negotiating economic stabilization programs with the International Monetary Fund and structural adjustment plans with the World Bank. Domestically we are concerned with modernizing the financial system. We have significantly reduced our fiscal deficit to 1.5 percent of gross domestic product, and are now engaged in a large-scale effort to diversify and expand our exports.

We want to attain a modern economy with more private ownership in which productivity and individual effort will determine worker income. We cannot accept the false premise of "economic efficiency or justice." Instead, we intend to pursue both goals simultaneously.

My government is taking firm action to obtain the full potential of private initiative. We are determined to extend the profit motive by enabling workers to participate in profit sharing. We are involved in transferring State enterprises to cooperatives. Last week we transferred the largest agroindustrial company in my country, the Central Azucarera Tempisque, to two hundred thousand cooperative members.

The new economic organization must be based on equity and security. No economy based on greed and intimidation can ever be established in Costa Rica in the name of efficiency.

United States collaboration

We have received generous collaboration from the United States in our efforts to build our new economy. This collaboration has taken the form of loans and grants, as well as new facilities for our products in the U.S. market. The Caribbean basin initiative, the product of President Reagan's concern for the region and the bipartisan support of the Congress, recognizes the vital link between international trade and economic development. This is gradually becoming a mainstay for our new exports.

However, there are problems that remain to be solved. We are a small nation and none of our products represents a threat to industries in this country. We are negotiating now to include other products in the agreement. We are also confident that the administrative sanctions will be eliminated for Costa Rica and that the quotas for some of our exports will be raised. Our imminent acceptance to the General Agreements on Tariffs and Trade, may help to solve some of these problems.

Our aim in establishing a modern economy is to replace gradually external aid for opportunities to create more a autonomous development. Unfortunately, we must contend with heavy external indebtedness, unstable access to new markets, and persistent deterioration in our terms of trade.

We are following with interest the progress of several legislative proposals: The efforts of Congressmen Gibbons and Pickle to expand the Caribbean basin initiative;

Senator Bradley's proposal to deal with external debt relief; and Senator Sanford's Commission on Central American Development, which focuses on regional economic recovery.

The greatest challenge

I said that our greatest challenge is to bring peace to Central America, a desire that I know you share. In August, the five Central American countries signed a peace accord in Guatemala City. Behind the problems besetting the region today, there is a history of two hundred years of injustice. Millions of human beings still live in grinding poverty, the fundamental cause of the present tragedy we face. We are convinced that the risks we run in the struggle for peace will always be less than the irreparable cost of war.

The peace plan

The peace plan encourages national reconciliation in countries where brothers are set against brothers. "To bind up the wounds," in Lincoln's phrase, we ask for dialog and amnesty, a cease fire as soon as possible and democratization without delay. We call for free elections reflecting the true will of the majority of the people. We call for the suspension of military aid to insurgencies. We want guarantees that no territories will be used to attack other States. We seek a reduction in armaments. We request national and international supervision by the Contadora group and the support group and by the Secretaries General of the United Nations and the Organization of American States. In an atmosphere of democracy and freedom, we can return to the path of development that will enable a lasting peace. These points reflect years of efforts by the Contadora group. For Costa Rica they reflect the power of a century of democracy and freedom.

The countries of Central America are now talking with each other. Their presidents, their ministers and their experts are talking. So are their writers and journalists, and their church people as well. We ask for assistance in this Central American dialog. We know better than anyone how hard it is to open up paths in the tropics, but we are determined. Reconciliation commissions have been formed. During the last few days Costa Rica has again exerted all of its moral authority to encourage dialog in El Salvador and Nicaragua leading to prompt negotiation of a cease fire. Costa Rica also served as an intermediary in the agreement to reopen La Prensa in Managua. If the guns fall silent, and if brother no longer kills brother, this dialog will have proved its worth.

The peace accord is a means, a procedure whereby we have all committed ourselves to work for peace. We have set deadlines. Above all, we strive for common goals. Some steps may be taken before those deadlines expire, others may require a longer period. We will not fall into a trap set by someone who shows us a calendar every day, anxious to bury the last hope. We have opened the door to the rule of reason in Central America and to reconciliation and dialog. As long as there is a will to succeed, hope should never be lost.

The right choice

As we stand at the crossroads of peace and development, or war and poverty, we must not make the wrong choice. For neither you nor we can undertake this struggle separately. The struggle for peace in Central America is the historic struggle of democracies. Now, as never before, a time has come in

history for the people of the United States and of Costa Rica to bring to bear the full power of the principles and values they share.

The history of Central America is a heart-rending one. In the past few years over one million persons have been made homeless. More than one hundred thousand have died. If we were to engrave their names on a wall, as the names of those who died in Viet Nam are engraved here in Washington, we would have to build a wall twice as long to inscribe all of the Central Americans who have fallen victim to violence in those years.

You are as dedicated to the search for peace as we are. Plans such as the proposal of President Reagan and the Speaker of the House, Mr. Wright, suggest significant openings to facilitate peace and guarantee democracy, disarmament, and regional security.

Restoring faith

It is time to focus on the positive. War signifies the failure of politics. Let us restore faith in dialog and give peace a chance. Let us not allow fear to prevail. If we work together we will achieve peace. It will be difficult. But has progress ever been easy? Here in the United States it was a hard-won struggle to wrest a living from the land, to win equality for all people, to preserve freedom, and to conquer space itself! Yet the more difficult the obstacle, the greater the satisfaction in overcoming it.

DEAR FRIENDS: We are most grateful for your friendship. With your help we hope to secure new and better development opportunities. With the help of the United States we hope to exchange threats of war for opportunities of peace.

Let us reaffirm our faith in our long and sincere friendship. Costa Rica wants to retain its cherished traditional values. When President John F. Kennedy visited us twenty-four years ago, he said:

"And today the principles of nonintervention and the peaceful resolution of disputes have been so firmly imbedded in our tradition that the heroic democracy in which we meet today can pursue its national goals without an armed force to guard its frontiers. In few other spots in the world would this be true."

At this difficult hour we are more than ever convinced of the truth of President Kennedy's words. This year we have decreed a yearly celebration of the "Day of Army Abolition" in Costa Rica. We have eliminated all military ranks for our police forces, and scheduled a contest among local schools to design the new civilian dress to be worn by Guard members. We are as proud of our traditions as you are of yours.

That is why I would like to say how moved I am to be present as you are celebrating the 200th anniversary of your magnificent Constitution—one that has inspired free men and women everywhere in the search for peace and freedom.

Let us then combat war with peace. Let us combat totalitarianism with the power of democracy. United in ideals and principles, joined by dialog and democracy, we can and will bring hostilities to an end. We must give peace a chance.

Thank you very much.

Mr. BYRD. Mr. President, I suggest the absence of a quorum.

CALL OF THE ROLL

The ACTING PRESIDENT pro tempore. The clerk will call the roll.

The assistant legislative clerk called the roll, and the following Senators entered the Chamber and answered to their names.

[Quorum No. 23]

Armstrong	Garn	Leahy
Byrd	Karnes	Stennis

The ACTING PRESIDENT pro tempore. A quorum is not present. The clerk will call the names of the absent Senators.

Mr. BYRD. Mr. President, I move that the Sergeant at Arms be instructed to request the attendance of absent Senators and I ask the yeas and nays on the motion.

The ACTING PRESIDENT pro tempore. Is there a sufficient second? There is a sufficient second. The clerk will call the roll.

Mr. CRANSTON. I announce that the Senator from Washington [Mr. ADAMS], the Senator from Montana [Mr. BAUCUS], the Senator from Delaware [Mr. BIDEN], the Senator from Oklahoma [Mr. BOREN], the Senator from Arkansas [Mr. BUMPERS], the Senator from Ohio [Mr. GLENN], the Senator from Hawaii [Mr. INOUE], the Senator from Hawaii [Mr. MATSUNAGA], the Senator from Rhode Island [Mr. PELL], and the Senator from Illinois [Mr. SIMON] are necessarily absent.

Mr. SIMPSON. I announce that the Senator from North Carolina [Mr. HELMS], the Senator from Idaho [Mr. MCCLURE], the Senator from Vermont [Mr. STAFFORD], the Senator from Virginia [Mr. TRIBLE] are necessarily absent.

Mr. BYRD. I ask for the regular order, Mr. President.

The PRESIDING OFFICER (Mr. CONRAD). Are there any other Senators in the Chamber who desire to vote?

The result was announced—yeas 79, nays 7, as follows:

[Rollcall Vote No. 258 Leg.]

YEAS—79

Armstrong	Gore	Mitchell
Bentsen	Graham	Moynihan
Bingaman	Gramm	Nickles
Boschwitz	Grassley	Nunn
Bradley	Harkin	Packwood
Breaux	Hatch	Pressler
Burdick	Hatfield	Proxmire
Byrd	Hecht	Pryor
Chafee	Heflin	Reid
Chiles	Heinz	Riegle
Cochran	Hollings	Rockefeller
Cohen	Humphrey	Roth
Conrad	Johnston	Rudman
Cranston	Karnes	Sanford
D'Amato	Kassebaum	Sarbanes
Danforth	Kasten	Sasser
Daschle	Kennedy	Shelby
DeConcini	Kerry	Simpson
Dixon	Lautenberg	Specter
Dodd	Leahy	Stennis
Dole	Levin	Symms
Domenici	Lugar	Thurmond
Durenberger	McCain	Warner
Exon	McConnell	Wilson
Ford	Melcher	Wirth
Fowler	Metzenbaum	
Garn	Mikulski	

NAYS—7

Bond	Quayle	Weicker
Evans	Stevens	
Murkowski	Wallop	

NOT VOTING—14

Adams	Glenn	Pell
Baucus	Helms	Simon
Biden	Inouye	Stafford
Boren	Matsunaga	Trible
Bumpers	McClure	

So the motion was agreed to.
Mr. JOHNSTON. Mr. President, what is the pending business?

CONCLUSION OF MORNING BUSINESS

The PRESIDING OFFICER. Morning business is closed.

NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEARS 1988 AND 1989

The PRESIDING OFFICER. Under the previous order, the Senate will now resume consideration of the unfinished business, S. 1174, which the clerk will report.

The legislative clerk read as follows:

A bill (S. 1174) to authorize appropriations for fiscal years 1988 and 1989 for military activities of the Department of Defense, for military construction, and for defense activities of the Department of Energy, to prescribe personnel strengths for such fiscal years for the Armed Forces, and for other purposes.

The Senate resumed consideration of the bill.

AMENDMENT NO. 710

(Purpose: To reduce funds for the SDI program)

Mr. JOHNSTON. Mr. President, I send an amendment to the desk and ask for its immediate consideration.

The PRESIDING OFFICER. The clerk will report.

The legislative clerk read as follows:

The Senator from Louisiana [Mr. JOHNSTON], for himself, Mr. PROXMIRE, Mr. EVANS, Mr. DURENBERGER, and Mr. BURDICK, proposed an amendment numbered 710.

Mr. JOHNSTON. Mr. President, I ask unanimous consent that further reading of the amendment be dispensed with. This amendment is submitted on behalf of myself; the Senator from Wisconsin, Mr. PROXMIRE; the Senator from Washington, Mr. EVANS; the Senator from Minnesota, Mr. DURENBERGER; and the Senator from North Dakota, Mr. BURDICK.

The PRESIDING OFFICER. Without objection, it is so ordered.

The amendment reads as follows:

At the appropriate place, insert the following:

Notwithstanding the provisions of Sec. 201, Sec. 231, Sec. 3111, Sec. 3113 and Sec. 3114.

1) Not more than \$7,824,552,000 are authorized to be appropriated for fiscal year 1988 for the Defense Agencies for the use of the Armed Forces for research, development, test, and evaluation;

2) Of the amounts appropriated pursuant to authorization or otherwise available to the Department of Defense for research, development, test, and evaluation for fiscal year 1988, not more than \$3,238,100,000 may be obligated for the Strategic Defense Initiative for such fiscal year;

3) Not more than \$3,653,800,000 are authorized to be appropriated to the Department of Energy for fiscal year 1988 for operating expenses incurred in carrying out weapons activities;

4) The total amount authorized to be appropriated to the Department of Energy in Division C for fiscal year 1988 for national security programs is \$7,763,900,000; and

5) Not more than \$319,500,000 shall be available to the Department of Energy for research, development, test, and evaluation, and other purposes, in connection with the Strategic Defense Initiative Program.

Mr. JOHNSTON. Mr. President, I yield to the distinguished majority leader.

Mr. BYRD. Mr. President, I thank the distinguished Senator from Louisiana.

ORDER FOR RECESS FROM 12:45 P.M. UNTIL 2 P.M. TODAY

Mr. BYRD. Mr. President, I ask unanimous consent that the Senate stand in recess today from the hour of 12:45 p.m. until the hour of 2 o'clock to accommodate the two party conferences.

The PRESIDING OFFICER. Without objection, it is so ordered.

ORDER OF PROCEDURE

Mr. BYRD. Mr. President, instead of having 2 hours for conferences, from now on we will have 1 hour and 15 minutes for conferences. This will allow more time for debate before the conferences and possibly votes.

Also, I should state that this evening the Senate will probably go out about 7 o'clock p.m. The White House is having a picnic and I am sure many of our Republican friends, as well as some Democrats, will be there. The reason I say "some Democrats" is that the Democrats are having a dinner honoring our chairman. And so from 7 o'clock on, I think the Senate will be out this evening.

On tomorrow, there should be a full day. However, after 6 o'clock, tomorrow, Rosh Hashanah begins. So there will be no rollcall votes after 6 p.m. tomorrow, sundown, but work can continue, debate can continue, and amendments may still be offered and agreed to by unanimous consent or voice vote. Rollcall votes, if ordered, may be stacked until 6 p.m. on Thursday.

During the day of Thursday, there will be no rollcall votes, but the Senate will be in and the Senate can be working on the DOD bill, transacting business on it, and also lining up rollcall votes to begin at 6 o'clock p.m. on Thursday.

One final item: The conference report on the debt limit should be over from the House of Representatives this afternoon and so that will be

available for callup tomorrow. The debt limit expires at midnight tomorrow night. Senator BENTSEN is eager to get the debt limit extension conference report up here tomorrow and acted on, and Senator NUNN is aware of this.

So perhaps we should think in terms of having the debt limit conference report up tomorrow and disposing of that sometime during the day, hopefully while we continue with our work on the defense bill.

I again thank my friend from Louisiana for this courtesy in yielding.

AMENDMENT NO. 710

The PRESIDING OFFICER. The Senator from Louisiana.

Mr. JOHNSTON. Mr. President, there is a 4-hour time limit, is that correct?

The PRESIDING OFFICER. That is correct.

Mr. JOHNSTON. Mr. President, I yield myself 15 minutes.

Mr. EXON. Would the Senator yield for a question?

Mr. JOHNSTON. Yes, Senator.

Mr. EXON. Given the schedule and the interruption of the schedule as has just been outlined very clearly by the majority leader, I am wondering if, in view of the fact that we all want to move ahead on this, I am wondering if 4 hours are more than we actually need to debate this bill. I am wondering if we could not arrange now an agreement to cut down that time by unanimous consent, either 2 or 3 hours, so possibly we could have a vote on this immediately preceding the meeting of the two caucuses at noon? Would there be any objection from the Senator from Louisiana to cutting down the 4 hours equally divided as the matter now stands?

Mr. JOHNSTON. I would hope we could do so, I say to my friend from Nebraska. We have nine requests for speaking on this side at this time, and my guess is that you would not have as many as nine on your side. But I would not want to cut down that time yet. We will try to do that as we—try to get a vote before we recess at noon.

Mr. EXON. I thank my friend from Louisiana but I am very conscious of the time, as is the distinguished Senator.

Mr. JOHNSTON. I might say, I would hope that the Senator from Georgia [Mr. NUNN], will be able to come over because frankly I am in hopes that this amendment can be accepted. I know there is—it will need to be discussed but I would hope it can be.

Mr. EXON. I would say to my friend from Louisiana, notwithstanding the position of the chairman of the committee, Senator NUNN—I suspect that he would not be in favor of the acceptance of this amendment. If he is, the Senator from Nebraska would object. So I think we can foreclose the possi-

bility of an amicable arrangement on this as of now.

Mr. JOHNSTON. I hope the Senator from Nebraska will keep an open mind. It may well be that he will continue to oppose this, but I think the case is very strong for this amendment.

Mr. President, what the amendment does is provide \$3.7 billion, approximately, for SDI, which is a 3-percent growth from last year.

Mr. President, the amendment provides for full funding of what we call the national test bed, which is a new test facility being constructed in Colorado, which will provide for computer simulations of various of the SDI Programs, and will provide, as I say, for 3-percent growth in these programs.

Mr. President, we will hear it said, no doubt, that the reason that the committee needs \$4.5 billion, which is their figure, which is a 30-percent growth in SDI, is that the House has \$3.1 billion and that somehow \$3.1 billion is too little and somehow they need trading room.

Mr. President, I have seen more money wasted in the Congress of the United States based upon that argument, that we have got to have trading room with the House, than almost any other single reason. What we need to do, Mr. President, is to analyze the SDI Program and see how much money is needed.

Mr. President, I join Senator PROX-MIRE and Senator EVANS in offering an amendment that would increase funding for the strategic defense initiative from the current level of \$3.5 billion to a total of \$3.7 billion for fiscal year 1988, which would be sufficient to cover inflation. The reported bill contains \$4.5 billion for SDI, an increase of about 30 percent or \$1 billion. There are three reasons why this amendment deserves your support.

First, looking at the budget allocations for defense, it is obvious that we cannot afford to provide a billion dollar increase for SDI when it is already the largest research program in the entire budget.

Second, this program has zigged and zagged every which way in its goals and priorities and even now is at odds with what the committee expects of SDI. It simply doesn't deserve a 30-percent increase in nominal terms when all the other DOD programs will get no real growth.

Third, even President Reagan recognized that ballistic missile defense systems are inherently destabilizing to the arms race. Pursuing a crash program to early SDI deployment, and that is what the real issue is here, is unwise and unnecessary.

Now as to the first point, can the committee afford to provide the extraordinary increase of \$1 billion to a program that is already the largest re-

search program in the budget? Clearly, the answer is no. According to the chairman, the reported bill is \$7 billion over in budget authority and \$3.6 billion over in outlays. That's from the high tier budget resolution allocations. That assumes President Reagan will agree to tax increases.

Do any of you really believe that Ronald Reagan is going to agree to raise taxes? I don't. Until President Reagan does raise taxes then the budget allocation situation for defense is even worse than I've described, perhaps impossible.

Now I have to add that when the Armed Services Committee reported their bill out they did not know what their budget allocations would be. So they have a good excuse for what they did. We know now what the situation is.

Under the lower tier budget allocations the committee must cut another \$14 billion in budget authority and \$10.6 billion in outlays. Over \$10 billion in outlays. Where are those cuts going to come from? We are in a zero sum game—what we give to SDI we can't give to other deserving programs. Do you want to cut operation and maintenance, or military personnel, to add a billion dollars to a research program that has more than tripled in 3 years? You certainly can't cut procurement and expect to get many outlays. That leaves research, that's where much of the cuts will have to come.

All of us received a letter recently from William R. Graham, the President's science adviser, lamenting the slow growth in basic technology programs in the military. One of the reasons the basic technology programs for the military have grown so little is that SDI has grown so much. Today SDI's budget exceeds the technology base research budget for all three services combined.

Are we prepared to cut military basic research programs in order to add another billion dollars to star wars, which is already the largest research program in the budget?

The situation is even worse than I described because this week the administration will submit a budget amendment requesting authorization for \$316 million for expendable launch rockets. The three services will have to absorb the cost of this amendment.

I sit on the Defense Appropriations Subcommittee and I can tell you that this authorization bill is a fantasy land compared to the reality of the situation. To meet the lower tier allocation for defense in the subcommittee, here are the options:

First, cutting out all fiscal year 1988 new procurement, or

Second, cutting one-half of all operation and maintenance purchases, or

Third, cutting out two-thirds of research and development.

If you cut 200,000 to 300,000 personnel and deny the fiscal year 1988 pay raise for military and civilians, then you have saved only half the outlays you need.

Mr. President, many of my colleagues think the White House does not understand the gravity of the budget situation, especially on defense. What kind of signal do we send the President about that situation if we give his pet project a billion dollar increase in this bill?

Now, do we really need \$4.5 billion to have a good research program in SDI? Interestingly enough, just prior to the star wars speech, the Reagan administration gave Congress its 5-year projections for what it wanted for ballistic missile defense research. The figure for fiscal year 1988 was not \$5.8 billion, the President's request. It wasn't \$4.5 billion as this bill provides. No, the Reagan administration's figure was \$3.1 billion.

So we really can't afford to add a billion dollars to SDI. But Mr. President, suppose we could afford to add a billion dollars to SDI. Would SDI deserve that extraordinary increase?

In fact the committee did establish an excellent set of criteria in their report last year for determining when further growth in funding was warranted.

As part of the broad technological thrust, the committee intends to support SDI at a robust but measured level consistent with the ABM Treaty until such time as progress in defining appropriate and realistic architectures, and determining the technical feasibility, survivability and cost effectiveness at the margin of potential SDI systems warrants further growth in funding.

My colleagues will recognize in this statement the so-called Nitze criteria of feasibility—also described as military effectiveness—survivability, and cost effectiveness at the margin. Yet in this year's report the committee says:

During its hearings, the committee observed research progress in many areas, but sees nothing thus far that would suggest that any of the three (Nitze) criteria have been met.

As for appropriate and realistic architectures I think it is safe to say that they have not been provided to the committee. There have been some hypothetical architectures submitted for token defense. But architectures that include the exotic weapons can't be devised until we know if the exotic weapons will work. That won't be for another decade according to the American Physical Society. So the committee's own criteria for justifying further SDI funding growth have not been met.

Last year some Members cited noted experts such as Harold Brown and James Schlesinger on what is the maximum amount of increase a good research program can absorb without

wasting money. This program has more than tripled in 4 years and the committee would have it more than quadruple in 5 years. No one has suggested that a research program can efficiently absorb increases of that magnitude. Don't forget that star wars began with a billion dollar budget.

What's worse, Mr. President, the committee report indicates they don't even agree with the goals of the SDI Program. Deciding whether you agree is not easy because the goals of SDI keep changing.

My colleagues will recall SDI began with the objective of making nuclear weapons "impotent and obsolete" with the President's vision of a leakproof astrodome over the United States and our allies. No one is talking leakproof astrodome today.

Dr. Harold Brown, former Secretary of Defense, wrote in an article in May of this year:

My judgment is that a comprehensive near-perfect defense of population will be infeasible for decades, and probably forever against an attack by many thousands of warheads.

Even John Tower said in the June issue of Ripon Forum.

The President's dream for a shield for the general citizenry, however, cannot be realized.

In short, Mr. President, the leak-proof astrodome is dead. The original vision has faded away.

Then there is the issue of whether SDI will protect our cities or our missiles.

The committee's report on page 119 says the major emphasis within SDI should be shifted away from nationwide, population protection, in other words the astrodome defense, and toward protecting retaliatory forces and command and control systems. The committee report last year said the same thing.

I should note that the committee's report and SDI are heading in opposite directions. Secretary Weinberger was quoted on July 2, 1986, as saying:

It's not our missiles that we seek to protect, but our people. And we must never lose sight of that goal.

Richard Perle said last year in a magazine interview that SDI would protect our missiles. Paul Nitze promptly said Perle's view was at odds with that of the White House.

This program has flip-flopped on another issue, Mr. President, and that is the morality of our deterrent forces. Early in the debate on SDI we heard a lot about the "immorality of deterrence." SDI was preferable to mutual assured destruction because it was better "to save lives than to avenge them," or so we were told. Fortunately, this rhetoric has ceased. Now we are told that SDI, particularly the early deployment of SDI, would add to our deterrence.

Well Mr. President, there are quite a number of programs in budget of other strategic programs taken together increases by 1 percent in real terms?

There has been another change in SDI. Originally, SDI was going to be a long-term research program focusing on "advanced technologies." What did the President mean by advanced technologies? Star Wars technologies is what we understood him to mean—lasers, and energy beams. When President Reagan offered his vision of SDI he said the task "probably would take decades of effort on many fronts" to accomplish. He predicted the research program, "may not be accomplished before the end of this century."

Within a year of President Reagan's first SDI speech, SDI's research objective had shortened in time. The objective was to complete enough research to permit a decision on system development by the early 1990's. Over and over we were told that. But deployment was envisioned by SDI to begin by the turn of the century and be complete, lasers and all, perhaps by 2005.

That was the vision last year. This year the goal has changed altogether again. The emphasis now is on early deployment in the mid-1990's without any laser weapons or particle beam weapons. That is, Star Wars without the Star Wars weapons. Instead SDI wants to use conventional rockets.

Why is that? The reason is that under the best of circumstances it will be at least a decade before our scientists know enough about the exotic directed energy technology that you cannot obtain a reliable comprehensive ABM defense of this country, one that provides enduring protection, unless we have the beam weapons that can attack at the speed of light. SDI concedes that.

But SDI supporters can't wait that long. Allan Mense, the SDI Program's acting chief scientist, told the Washington Post in January:

Like it or not, we see a political reality staring us in the face. If we don't come up with something specific people are not going to let us play in the sandbox for 10 years.

To come up with something SDI has dusted off this 25-year-old idea of deploying thousands of conventional rocket interceptors in space that would destroy Soviet ballistic missiles. The missiles are called space-based kinetic kill vehicles or SBKKV.

When the panel of experts headed by Dr. James Fletcher first scoped out the SDI Program in their classified multivolume report on ballistic missile defense, the term "SBKKV" was not used. Instead they were called space-based conventional nonnuclear weapons. I guess that somewhere along the line it was decided that calling these homing rockets "conventional weapons" did not sound exotic enough for SDI. And so the term space-based kinetic kill vehicles was used.

What about maintaining the option for near-term deployment as a hedge

against the possibility of a Soviet ABM "breakout?" What does the committee report say about that? You have to read the report very carefully on page 119. It says that a portion of the SDI research program should pursue near-term options as a hedge against a possible Soviet breakout. However, the report says the Eris missile technology alone is an adequate hedge. What is Eris? It stands for exoatmospheric reentry vehicle interception system. It is a land-based interceptor rocket, it is not space-based at all. The administration wants to do Eris all right but the larger emphasis by far is on SBKKV, putting thousands of homing rockets in space. Judging by the committee report, the committee and the administration don't see eye to eye on how best to hedge against a Soviet breakout.

So, on the subject of maintaining a hedge against a near-term SDI deployment option, the committee report and the administration are speaking about two different concepts.

So SDI's goals keep changing and the committee report reflects quite a different view as to the proper goals and direction of the program.

Nevertheless, despite these differences in fundamental direction, the committee rewards SDI with a billion-dollar increase—a 30-percent nominal increase in the program. Mr. President, SDI just doesn't deserve that increase.

CRASH PROGRAM FOR EARLY DEPLOYMENT IS FOLLY

Now to my third point.

Pursuing a crash program to achieve an early SDI deployment is unwise and unnecessary. To begin with, strategic defenses are destabilizing to the arms race.

I clearly recognize that defensive systems have limitations and raise certain problems and ambiguities. If paired with offensive systems, they can be viewed as fostering an aggressive policy, and no one wants that.

Those are not my words, they are President Reagan's words in his first SDI speech. He has made the point, not once, but over and over again.

The vote on the Nunn-Levin language shows the Senate understands the danger of rushing into strategic defenses. With the Nunn-Levin language in law, if the President decided to adopt and implement the broad interpretation of the ABM Treaty, we wouldn't learn about it over Sunday dinner while watching the President's national security advisor on Meet the Press. That, you will recall, is how we first learned that the administration has decided the broad interpretation was the correct legal interpretation of the treaty.

There isn't any doubt about what this huge increase in SDI's budget is for. Senator WILSON in the minority views laid it out. He says the committee recommendation of \$4.5 billion is "the absolute minimum needed to pre-

serve the option for a first phase of deployment of a defense against ballistic missiles in the midnineties."

That proposed huge budget increase wouldn't go to technology base development for directed energy weapons. That grew by only 0.2 percent. On the other hand, the budget for SBKKV systems grew by 139 percent. The budget for lifting those SBKKV's into space in an early deployment grew by over 1,000 percent. Walk through the President's budget for SDI and you soon see that the 55-percent real increase went to near-term fancy demonstrations and not SDI deployment.

What kind of shield will this early deployment be? In fact, it isn't going to be a shield at all. It will not keep all, or even most, Soviet warheads from raining down on our country. It's only going to be a token defense that according to General Abrahamson, SDIO Director, will disrupt the timing of a Soviet attack. A Senate staff study which Senator PROXMIRE and I commissioned reported that the early system would at best only stop about one in five Soviet warheads. Four out of five Soviet warheads would come through. Some shield!

That's the best case. What's really likely to happen? What if the Soviets employ countermeasures?

Dr. Harold Brown published an article in May of this year stating:

A U.S. decision to proceed with a space-based KKV layer would provide a strong motivation for Soviet development of fast-burn boosters, space mines, and other countermeasures. Those can be developed and deployed more easily, quickly, and cheaply than the space-based KKV's. The Soviets would be imprudent not to do so, and in these matters the Soviets are not imprudent.

Dr. Brown testified before the Defense Appropriations Subcommittee on March 25, 1987, and agreed that a Soviet fast-burn booster would "catastrophically defeat" our SBKKV system. He further testified that the Soviets could have a fast-burn booster by the early to mid-1990's. Mr. George Miller, the associate director of Lawrence Livermore National Labs, and an expert on the subject, agreed with this assessment.

Dr. Brown explained that with a fast-burn booster the rocket motor burns out quickly leaving almost no time for the SBKKV's to reach the target before burnout. Once the Soviet booster rocket burns out it is much more difficult for the SBKKV to track. That means the SBKKV's have to be so densely distributed in orbit over the Soviet Union to be in range of the target missile that "the cost of the defensive system goes up exponentially and it just does not work."

The SDI report to Congress of 1986 concedes that the fast-burn booster could severely shorten the exposure time of enemy missiles in their boost phase.

The 1987 SDI report to Congress concedes we will need directed energy weapons to shore up the SBKKV defenses if the Soviets respond with fast-burn boosters. The problem is, we won't know for another decade if those directed energy weapons will be militarily effective.

Well, what will the early deployment system cost? Earlier this year SDI said \$40 to \$60 billion. But 6 months have passed since that estimate and the Pentagon now says the figure has doubled. General Abrahamson is quoted in the *Philadelphia Inquirer* of September 13, 1987, as saying the cost is, "\$70 billion to well over \$100 billion for an initial, partially capable but very impressive" deployment.

Dr. Harold Brown says the cost is more like \$300 to \$400 billion, "several hundred billion dollars at least." He and Dr. George Miller told the Defense Subcommittee the Soviets could produce a fast-burn booster for about \$30 billion. Brown said that the Soviets could defeat our SBKKV for one-fifth to one-tenth what it cost us to build it.

Harold Brown is an authority on the subject of SBKKV because he made the decision not to proceed with SBKKV 25 years ago. Then the project was called BAMBI. I have a 1,000-page formerly secret DARPA report on Project BAMBI that concluded a quarter century ago that SBKKV was vulnerable to Soviet fast-burn boosters.

The same concept was resurrected in 1981 as "High Frontier." In fact, just months before the President's famous 1983 star wars speech, Defense Secretary Weinberger and his then deputy, Frank Carlucci, refused to spend money on High Frontier. An analysis by their defense experts, and there was an extensive analysis, had concluded that "the High Frontier proposals are unrealistic regarding state of technology, cost, and schedule."

You know what Edward Teller said about High Frontier? He said:

High Frontier can be done for \$100 billion dollars, let us say. But the Soviets can get rid of High Frontier for \$10 billion (*Christian Science Monitor*, Apr. 4, 1983.)

Mr. President, perhaps the most astounding part of all is how fragile the administration says the early deployment option is. The administration's ABM report to Congress, submitted on May 19, 1987, urges the Congress to adopt the broad interpretation of the ABM Treaty immediately so as to facilitate early deployment. The report says in an unclassified paragraph:

Any significant delay in implementing the broad interpretation of the ABM Treaty will result in increasingly detrimental consequences to the SDI program. These consequences range from further delays in the program and higher costs to the loss of deployment options, in the event of delays of a year or more.

That report was submitted to Congress 4 months ago. That means that 8 months from now a year will have passed, and unless the United States

has by then adopted the broad interpretation of the ABM Treaty, early deployment options for SDI may have been lost. Frankly, Mr. President, if a 1-year delay this early in the research program jeopardizes SDI early deployment options, then what the administration would rush to deploy is not worth pursuing.

To summarize, we can't afford to give SDI a billion dollar increase when the rest of DOD is held to essentially no real growth. Here is an opportunity to send the right signal to the President about the budget situation and national defense. If he's tuned in to any channel, it's this one—SDI.

Moreover, a program so buffeted by changing priorities and conflicting hype doesn't deserve such an increase.

Finally, we know what the score is on this early deployment. The program was losing political momentum so SDI shifted to near-term deployment. Does it make sense? Of course not, not even as a hedge against a Soviet breakout.

Mr. President, there has been a shift in ground on SDI of monumental proportions since it was first discussed. Everyone remembers the March 1983 speech of the President where he unveiled this great dream of SDI. We were to put an astrodome over the United States at that time, rendering nuclear weapons impotent and obsolete. It was a wonderful dream and we were told and given schematic drawings and television mockups which showed these ray guns in space and mirrors that would instantaneously beam these rays down on the incoming Soviet missiles.

Well, now Mr. President, that dream has been deep sixed. It is no longer being discussed. We are no longer talking about ray weapons, at least not in the mid-1990's, because this administration wants to deploy this SDI sometime in the mid-1990's. We are no longer talking about Excimer lasers or free electron lasers or neutral particle beams. That is out of the picture now, other than on a research program.

What we are talking about now, Mr. President, or what the administration is talking about, is an expanded BAMBI.

BAMBI was the acronym given to the research program back in 1962, which involved the orbiting rocket pods with rockets, with heat-seeking rockets, which would actually collide with the incoming ICBM's, given the name space-based kinetic kill energy—or rockets, or SBKKV's.

That is what we are talking about now, a dramatic shift.

It is also a dramatic shift, Mr. President, as we went from ray gunning to smart rocking, or SBKKV's, as they are called, we also went from an astrodome to a program which is less than 20 percent effective.

The present architectures, as the open literature indicates, would give you an effectiveness of something less than 20 percent. The cost we were told

last week has now risen, according to the administration, to about \$100 billion. \$100 billion to \$120 billion, I think, is the figure they use. And they hope if everything works out that it will have an effectiveness of about 20 percent. So there has been a dramatic shift, Mr. President, from what it used to be when we were putting the astrodome over the United States.

The question is: Can we afford that? Is that really what the Congress intends? Or should a more modest financing be provided?

Mr. President, if you look at the defense budget—and I must look at the defense budget because I am a member of the Defense Appropriations Subcommittee—the exercise which we have to go through to fit that budget into any foreseeable allocation is going to be a crucial and inhuman exercise with respect to the defense budget because we are going to have to cut programs that need, not less funding, they need more funding.

The question really for this Senate is not whether we want one of these expanded pay-for-anything budgets for SDI but whether we want to take defense money from some other program and put it in SDI? Specifically, put it in space-based kinetic kill vehicles?

Mr. President, the space-based kinetic kill vehicles have long been discredited. It is a futile hope to think you can build a technology on SBKKV.

Last year, in the Committee on Defense Appropriations, we had Secretary Harold Brown who testified that the spaced-based kinetic kill vehicles can be defeated by the fast burn booster of the Soviet Union. The fast burn booster, Secretary Brown testified, is today's technology. It is not something we have to invent. It is not something out there in the future. It is today's technology. And the Soviet Union, for about 25 percent of the costs, can defeat the space-based kinetic kill vehicle with a fast burn booster.

They can also do so sooner. In other words, if we made the decision to deploy the SBKKV, the Soviet Union could defeat it faster than we could deploy the space-based kinetic kill vehicle. The scientist who heads up Lawrence Livermore's strategic weapons program, Dr. George Miller, also testified before our subcommittee, and he testified that the fast-burn booster can catastrophically defeat the space-based kinetic kill vehicle.

I do not know whether my colleagues have heard that testimony, but the scientist who is heading the Lawrence Livermore program says SBKKV can be defeated catastrophically.

I want my friend from Nebraska to respond to that because we have searched very carefully to find the answer to that. He heard from Dr. Miller from Lawrence Livermore,

today's scientist, and Dr. Brown, former Secretary of Defense, saying it can be catastrophically defeated and yet we continue to go in that direction.

Mr. President, when the administration says it needs to increase its budget, what they really are doing is increasing the budget for the space-based kinetic kill vehicle.

If you look at the budget for the strategic defense initiative—

Mr. WILSON. Mr. President, will the Senator yield for a question?

Mr. JOHNSTON. Yes.

Mr. WILSON. As I understood the Senator, he said that the head of Lawrence Livermore has said that the space-based KKV could be catastrophically defeated.

Mr. JOHNSTON. By the fast-burn booster, yes.

Mr. WILSON. And that is today's technology?

Mr. JOHNSTON. Yes.

Mr. WILSON. Could my friend from Louisiana tell me, in today's technology, how long it would take the Soviets to do that?

Mr. JOHNSTON. According to Dr. Harold Brown and Dr. George Miller, the fast-burn booster could be deployed faster than the space-based KKV, both faster and cheaper.

Mr. WILSON. Would the Senator from Louisiana tell me, in what period of time, and does that involve retrofitting the existing Soviet inventory? If so, what would be the precise cost of that?

Mr. JOHNSTON. Here is what Dr. Brown said:

The Soviets are now deploying solid propellant ICBM's which are much faster burn than liquid propellant. A steady evolution or rapid acceleration of that technology would give them a fast-burn booster in the early to mid-eighties, the timeframe in my judgment, if they decided they needed to do it.

The fast-burn booster would cost probably as much as any other ICBM system.

Senator Johnston: We are talking about \$30 billion?

Dr. Brown: \$30 billion, say, and, of course, you do not have to do it with the whole force. You have to do it with a part of the force.

Then he goes on.

So he is talking about—

Mr. WILSON. So it would be \$30 billion for some portion of the existing inventory?

Mr. JOHNSTON. I said \$30 billion. That is about the cost of a new system. He said you could deploy it for the cost of a new system. Obviously, you cannot be totally precise on it, but if we are talking about \$30 billion for a new system, that compares to at least \$100 billion.

Mr. WILSON. That would buy a new system?

Mr. JOHNSTON. I think Midgetman is \$40 billion. So we are talking about much less than the space-based KKV.

Mr. WILSON. Did Dr. Brown explain how that would be the case when

the existing inventory that we are talking about is estimated conservatively to cost about \$800 billion. It is thought by many, I think quite reasonably, that the impetus for the Soviets to be concerned, so overwhelmingly concerned, as they explicitly have been, about the SDI Program, is because of their fear that it would make it obsolete, once an effective ABM system were installed in this Nation.

Mr. JOHNSTON. I can explain that.

Mr. WILSON. It would make obsolete about an \$800 billion investment. How do we get away with a \$30 billion retrofit that would give this fast-burn booster technology? I should tell my friend the reason I am addressing the point is because everywhere I went last December in about a 10-day tour of the defense contractor installations, I asked questions about the fast-burn booster and they said it was not at hand, that it is very expensive. The idea of retrofitting the Soviet inventory is prohibitively expensive.

Mr. JOHNSTON. I will explain what Dr. Brown meant by that. The answer is very simple. If the invested cost is \$800 billion, and who knows what the cost is, that would include all the R&D that went into developing the warheads. The warheads are probably the most expensive part of it. You do not have to change warheads. It involves all the guidance systems. You do not have to change the guidance systems. It involves the silos. It involves everything but the booster. So all we are talking about is a retrofit of a new booster, a new fast-burn booster and that is all you have. That is why Dr. Brown said he thinks you can do it for the cost of a new program which would be about \$30 billion. Again, you do not have to do it for the whole system. If you just did it for, let us say, 100 SS-18's with 10 warheads that gives you 1,000 or 1,200 warheads which are immune to the SDI, assuming you have it.

Mr. WILSON. Did Dr. Brown mean, when he spoke of a \$30 billion cost, a single weapons system rather than the entire weapons systems?

Mr. JOHNSTON. His testimony, as I recall, does not say. We all assume that the SS-18, which is their most potent weapon, would be the first one retrofitted. But my own guess is that you could probably put a new first stage booster on which could be common to a number of their weapons. Certainly, the SS-18 would be all you would need to have.

The PRESIDING OFFICER. The Senator has used the 15 minutes he allotted to himself.

Mr. JOHNSTON. Mr. President, I yield myself an additional 5 minutes.

According to the CIA, the dollar cost in the production of the Soviet ICBM systems, and this is unclassified, was \$43 billion from 1971 to 1975, \$42 billion from 1976 to 1980, and \$33 billion from 1981 to 1986. So that is about \$120 billion. They say that is the

dollar value of Soviet defense activities measured to cost in the United States at prevailing prices and wages and using United States technology.

I do not know where the figure of \$800 billion came from, but the CIA estimates it from 1971 at about \$12 billion. But who knows precisely? We do not know precisely what it is, but almost every expert I have heard says that SBKKV can be drastically defeated, catastrophically defeated. The pro-SDI people and the anti-SDI people all say it. Why we proceed down the SBKKV blind alley I do not know, other than it is what I call an ideological deployment.

Mr. President, the increased amount in the budget is for SBKKV. The ray weapons have only a 0.2-percent increase, so all of these weapons which were the great hope of the astrodome and which, frankly, I think we should proceed with R&D on, Excimer laser, the free electron laser, the neutral particle beam. There is no increase for those programs.

Now, let me say right now, Mr. President, I am a pro-SDI R&D man. I am the chairman of the Subcommittee on Energy and Water of the Appropriations Committee, and when that budget came over—and we fund the national labs there—when that budget came over from the House, as part of the chairman's mark I increased SDI by \$30 million, not because somebody made the motion but as part of the chairman's mark, because I believed we need to fund those Excimer lasers, the free electron laser, and the neutral particle beam programs that are going on at our national labs. But this administration does not want to increase those programs. It is all SBKKV.

Look at this budget, if you will, Mr. President. Here is miniprojectiles, \$102.9 million. Here are all kinds of SDI strategic architecture; \$91 million, system concept analysis. Right on down the line. It is all SBKKV driven and it is driven by SBKKV because this administration wants to get deployment by the mid-nineties of what amounts to obsolete technology. It is the same thing we had back in the BAMBI Program, starting in 1962. It is the same thing we had in the High Frontier Program in the early eighties. Both were rejected and both ought to be rejected at this time.

Mr. WILSON. Mr. President, will the Senator yield for a question?

Mr. JOHNSTON. Yes.

Mr. WILSON. It is twice now that my friend from Louisiana has made a statement equating SBKKV, the space-based kinetic kill vehicle, with the old BAMBI Program of the early sixties, in fact, earlier than that. BAMBI was Sputnik-era technology.

Mr. JOHNSTON. 1962, if the Senator will yield.

Mr. WILSON. The Senator seems to be saying they are one and the same thing. That is the clear impression

that the Senator has left. Is that what the Senator means?

Mr. JOHNSTON. Exactly.

Mr. WILSON. In other words, the Senator is saying that the space-based interceptor that we are talking about now has no greater capacity, no greater capabilities than the BAMBI Program?

Mr. JOHNSTON. No. I am saying it is the same technology, that is to say, what amounts to an orbiting rocket pod with a kinetic kill vehicle—that is, the rocket which would be fired is intended to collide with the ICBM.

Mr. WILSON. It is a kinetic technology.

Mr. JOHNSTON. Yes. It is driven by—

Mr. WILSON. Is the Senator saying no, that it has no greater capability?

Mr. JOHNSTON. It has a heat-seeking sensor.

The PRESIDING OFFICER. If the Senator will suspend, the Senator has used his additional 5 minutes.

Mr. JOHNSTON. Three additional minutes.

It is a heat-seeking sensor. It even looks the same. We have the BAMBI report. Obviously, everything has been improved since 1962, but it is the exact same technology. The principles are all the same. I am sure it is a faster burn rocket. I am sure there are better sensors. All those things are better, but it is the same technology with the same difficulties, that is, even though it is faster now, it is not fast enough to defeat the fast-burn booster. A heat-seeking sensor cannot even see the rocket as it comes up until it clears the atmosphere because it is masked by all of the air and the humidity, so you have to get to about 35,000 feet before you can even begin to see it, and that is the first 30 seconds of the burn. After that you have to be there, you have to see it, and you have to react very quickly.

Now, Mr. President, let me very quickly talk about the budget of the Department of Defense because it is going to be awful when we go to cut it. Mr. President, defense authorization at present is over by \$14 billion in budget authority and \$10.6 billion in outlays if you use the lower figure of the \$7 billion linkage. In other words, in the budget resolution we had \$7 billion which was to be allocated to defense appropriations, provided that the President went along with \$19.3 billion worth of taxes. Most assume he will not do so. So using those figures, you are \$14 billion over in budget authority and \$10.6 billion in outlays.

Now, if the Armed Services Committee wants to be irrelevant to this process, just continue to do that. Just continue to fund everything. We will make those decisions over in the Appropriations Committee.

I hope you do not do that because we need some help and guidance on

where to make the cuts and where to put the priorities. Fourteen billion dollars over, that is making priorities? I submit to my dear friend that is not making priorities at all.

Now, we have a new resolution coming through as part of the debt conference, and they tell me what they will probably do over there is take about half of that \$7 billion and add it on. So they will take \$3 billion to \$4 billion additional, which means that you are not \$14 billion over, but you would be something like \$11 billion over in budget authority and probably about \$8 billion over in outlays. Eight billion dollars over in outlays is a huge amount.

The PRESIDING OFFICER. If the Senator will suspend, he has used his additional time.

Mr. JOHNSTON. Two additional minutes, Mr. President.

Mr. WILSON. Mr. President, will the Senator, before he finishes, yield to some additional questions to be on our time?

Mr. JOHNSTON. Yes. If I may finish this, then I will yield on the Senator's time because I want to give plenty of time for my cosponsors.

So, Mr. President, you are going to have to go in and cut. Now, where do you cut? I can tell you we have gone through this exercise in defense appropriations. There are not many places to cut. William R. Graham, who is the President's science adviser, is already lamenting the low growth in military basic research. SDI today is larger than the technology base research budget for all three services combined. Are you going to take it from R&D when he is already lamenting the fact you do not have enough?

Are you going to take it from procurement? I hope not because we already have low outlays; there is about a 2 to 1 outlay ratio there. Are you going to take it from military personnel? What our Defense Appropriations Subcommittee has concluded is this: In order to fit this budget into today's allocation, you can do it by cutting out all fiscal year 1988 new procurement—all of it, cut it all out. You can cut out one-half of the O&M purchases or you can cut out two-thirds of the R&D, or you can cut 200,000 to 300,000 personnel and deny the pay raise. But that only saves half the outlays.

Mr. President, these are terrible choices, but with these choices, are you going to take still further funds and put them over in the space-based KKV with this outmoded technology? Is that really what we are wanting to do? Here the President is saying no new taxes, that we need national defense very strongly but no new taxes. Now, what kind of signal does it send to the President when we are giving his pet project a billion dollar increase—and that is what the Armed Services Committee wants to do, give

him a billion dollars on this obsolete technology while the rest of defense not only goes begging, not only does not get an increase, but gets decimated, gets cannibalized in order to fund SDI.

The PRESIDING OFFICER. If the Senator will suspend, he has used his additional 2 minutes.

Mr. JOHNSTON. One additional minute. So, Mr. President, the point is we ought to analyze SDI for what SDI needs.

Why can we not debate SDI, rather than just say we have to go into the conference with a \$1 billion increase? It does not matter whether we need it or not but we are playing this game of going over there to the House.

I mean that is what we have done every year? Do you know we have quadrupled the SDI budget since the President made his March 23, 1983 speech? Now we want to not only quadruple it, we want to quintuple it again this year. Is it needed? Not for the ray weapons, not for the astro-dome, not for the hope of mankind, not for rendering the nuclear weapons impotent and obsolete, but to fund an architecture—and these are the facts—built on space based KKV with a capability of, if it works, shooting down less than 1 out of 5 of incoming warheads, and doing so at a cost of \$100 billion.

Mr. President, if that makes any sense, then I do not know what this whole debate is about.

I yield the floor.

Mr. EXON addressed the Chair.

Mr. WILSON addressed the Chair.

The PRESIDING OFFICER. The Senator from California

Mr. WILSON. Mr. President, I have a number of questions I am eager to ask my good friend from Louisiana because he has made a number of provocative statements with which I do not agree. I look forward to having that opportunity.

I have just received disconcerting news, however. The ranking member of the Senate Armed Services Committee—

The PRESIDING OFFICER. If the Senator will suspend, the Senator from Nebraska is in control of the time and by rights should have been recognized.

Mr. WILSON. That presents another dilemma.

Mr. President, I suggest the absence of a quorum. Let me explain why. I think the Members are entitled to know that.

I have been requested to do so by the ranking member of the Senate Armed Services Committee who desires, along with a number of other members of that committee, to be here on the floor for this debate, but cannot be here because a hearing is being conducted. Therefore, we regret,

with great regret, I must say, because I eagerly look forward to this debate, I suggest the absence of a quorum.

Mr. EXON. Mr. President, will the Senator from California please withhold so we might discuss this publicly?

Could we have a discussion on what I thought was the time of the Armed Services Committee majority?

What is the problem that the Senator from California has?

It just so happens that the Senator from California and the Senator from Nebraska are on the same side of this discussion. Our good and close friend from Louisiana happens to be on the other side. A distinguished member of the Strategic Subcommittee who has other pressing business is here.

I was about to make a short 2- or 3-minute opening statement and try to recognize him.

What is the quarrel with regard to time, may I ask the Senator from California? I think the Senator from California knows and recognizes that the Senator from Nebraska's work is good. We have 2 hours. I think that is too much. I will be more than happy to accommodate him and any of the people on his side of the aisle. What is the problem?

Mr. WILSON. The Senator, my good friend who is on my side, and I are on the same side in this struggle. I have no problem, nor quarrel whatever with him nor with the Senator from Louisiana nor anybody else present on the floor.

The reason for the institution of a quorum call is to permit other Senators, who have been summoned to a meeting at the precise time that this debate is going on, to be here. And that is the reason this in fairness to them I think does need to be resolved, and I am not sure that either I or the distinguished Senator from Nebraska who is my subcommittee chairman are in a position to do that. So I suggest the absence of a quorum.

Mr. PROXMIRE. Will the Senator from Nebraska yield before we get the absence of a quorum?

Mr. WILSON. Mr. President, I suggest the absence of a quorum.

Mr. PROXMIRE. Can we permit the Senator from Wisconsin to make his statement instead of having a quorum call? It seems to me that would permit the debate to progress and would permit the Senators on the other side who want to be here to talk, and to have plenty of time to do so. This is a 4-hour situation. If we have quorum calls that will mean we will not be able to make our statements at all or we go until 1 or 10 past 1.

The PRESIDING OFFICER. If the Senator will yield, the Senator from California, in order to suggest the absence of a quorum, would have to obtain the floor from the Senator from Nebraska who is in control of the time.

Mr. WILSON. Mr. President, I believe I was duly recognized by the Chair.

The PRESIDING OFFICER. Inappropriately recognized by the Chair.

Mr. WILSON. Mr. President, as far as I understand the rules, that does not alter the fact that I was recognized and do have the floor, and have not yielded.

The PRESIDING OFFICER. The ruling of the Chair in this circumstance would be that the Senator from California would have to obtain the floor from the Senator from Nebraska. It was not the province of the Chair to award the floor to anyone other than the Senator in control of the time.

Who yields time?

Mr. EXON. I thank the Chair. I yield myself 3 minutes from our time.

I would first like to start out by saying that I hope the Senate will go on notice and on record that for 2 consecutive legislative days the Chair has made the same mistake that was just made. And I would suggest that if we are going to follow the usual rules and procedures, the Chair and those advising the Chair had better get up to speed. I was upset the other day when a like matter happened. I can understand that the Chair, like all of us, makes mistakes from time to time. I do not know how we are going to work our way out of this particular dilemma.

Let me inquire of the Chair: Since the Senator from Nebraska currently has the floor, and since I would like to continue with the debate and allow the Senator from Ohio and the Senator from Wisconsin and others who legitimately have the right to be heard, I cannot imagine what is accomplished by going to a quorum call to accomplish and do nothing when we have Senators here on the floor willing and able, and whose debate I think could be a critical part of the eventual vote on this matter.

Let me inquire of the Chair: Since the Senator from Nebraska now has the floor, may I recognize and assign time on the 2 hours assigned to me as the manager of this portion of the bill? Can I assign time to others without losing my right to the floor?

The PRESIDING OFFICER. The Senator has 2 hours under his control, and he can yield time to whoever he desires as he sees fit.

Mr. EXON. If I yield time to whom ever I see fit, that would not allow the Chair to make a determination as to who is recognized. In other words, in effect, the manager of this bill with the time allowed to him would be allocating time to those he desires as he sees fit; is that correct?

The PRESIDING OFFICER. The Senator is authorized to yield time. The Chair has the authority to recognize Senators seeking recognition.

Mr. EXON. I yield myself an additional 3 minutes. Following that I will be glad to yield 5 minutes to my friend from Ohio.

I have listened with great interest to the remarks from my distinguished friend from Louisiana. He is an expert on defense. He is on the Defense Appropriations Committee. We have worked together on defense matters for a long, long time. We have also worked shoulder to shoulder on matters regarding the budget of the United States of America.

I would simply like to point out that much of the argument that has been made by the Senator from Louisiana thus far today could properly be applied to an amendment to reduce the funding for the space-based kinetic energy kill vehicle. That has not been the major thrust so far of the argument this morning.

The argument this morning essentially advanced by the Senator from Louisiana and the amendment that he has sent to the desk essentially reduces the authorization for SDI funding as approved by the Strategic Subcommittee which this Senator chairs, and the full Armed Services Committee from a level of \$4.5 billion for the next fiscal year down to \$3.5 billion.

Mr. JOHNSTON. \$3.7 billion.

Mr. EXON. The Senator is correcting me already.

The reasons for that is that as usual we do not compare apples with apples and oranges with oranges. I emphasize once again that from the standpoint of the authorization of the Armed Services Committee, the Strategic Subcommittee and the full committee, we authorized \$4.5 billion. Under the amendment offered by the Senator from Louisiana that would essentially be \$1 billion less, or \$3.5 billion.

What we must remember, I suggest to all, is that while I think that the 4.5 level as authorized by our committee is somewhat higher than it needs to be, when we go to conference with the House we are going to be faced with the equivalent of a \$3.1 billion authorization from the Armed Services Committee of the House of Representatives.

Therefore, I simply say that I hope that, for various reasons, we will not approve the amendment offered by the Senator from Louisiana, although I happen to agree with many of the points he has made with regard to the kinetic kill vehicle in space.

What we had best do here is go to conference with the House at the agreed recommended level by the Armed Services Committee; and I would suggest to my friend from Louisiana that if we go to conference with the House at \$4.5 billion and they are about \$3.1 billion, it is very likely that the end authorization for SDI would be in the area of \$3.5 billion to \$3.7 bil-

lion, where, if I understand it correctly, the Senator from Louisiana thinks we should be.

Mr. President, I reserve the remainder of my statement, and I am pleased to yield to a very important member of the Strategic Subcommittee, the Senator from Ohio, for 5 minutes.

Mr. GLENN. Mr. President, I will make my remarks brief and will participate later in the debate.

I do want to state, and I state this as a major supporter of SDI—I have made it on the floor and in committee and have supported SDI—that I think the administration made a grievous error about a year and a half ago when they started talking about already deploying portions of SDI.

The people running the SDI Program, in visits to my office in years previous to this past year and a half, have said repeatedly—and I mean repeatedly—that it would not pay to deploy any part of the SDI system until we had made the scientific breakthroughs necessary to enable us to see our way clear to go ahead with deployment. We need the neutron particle beam, the laser, and the computer technology to be advanced. The laser and the neutron particle beam, at the least, have to have scientific breakthroughs to enable us to learn how to handle them before we can go ahead with any system. Otherwise, with a partial system out there, you have the Soviet capability of completely inundating any system, completely overwhelming it, and money spent on a partial system would be wasted.

I do not know what led them into that, because directors of the program told me repeatedly that their policy was that we would not go ahead with deployment until we had these breakthroughs.

It used to be said at our hearings that all we need was a national will and it would be like Project Apollo. Every time that came up, I said that was not true. There is a major difference between this and Project Apollo, and that is that with Project Apollo we had all the scientific information we needed. All we needed on Project Apollo was a lot of very hard, long, tough engineering work to put the whole thing together.

Mr. JOHNSTON. Mr. President, will the Senator yield for a question?

Mr. GLENN. I yield. My time is limited.

Mr. JOHNSTON. What I am hearing from the Senator, in effect, is that I think he is agreeing with me on the SBKKV, that that is a mistake.

Mr. GLENN. What I was building up to was that we should not be going through a deployment program until we make the scientific breakthroughs whereby we can see this whole pattern fitting together in an overall package, as the President described.

I think the administration shot

themselves in the foot when they came up with all these funds for deployment. One of the difficulties has been in trying to sort out the funds for deployment and the funds for going into basic research.

I support all the funds they can take for research, neutron particle beam, laser, and all the control systems, and for the computer technology. That needs some breakthroughs before we can go ahead with having the option of the whole system.

Two summers in a row, I spent 10 days each summer talking to the major scientists on these systems, and they have told me that it is 10 years down the road—some say as much as 15 or more—before we have the breakthroughs, because we do not have them yet. Obviously, the SDI office has a great deal of confidence that they will make these breakthroughs. But when you get into the complexity of these systems, it is mind-boggling. We should not be deploying with a KKV system, or whatever, before we have some of the other components of the research phase, so that we see that we have the capability in the future, have the option in the future, of putting this whole thing together as a package—that is, when we sit down and say that we have the particle beam and the lasers and the computer capacity to start doing these things. We are far enough away from having that—we have a number of years yet, 10 to 15 years, before we have all this ready to go, according to the scientists. That is my concern.

Mr. WILSON. Mr. President, will the Senator yield for a question?

Mr. GLENN. I yield. My time is very limited.

Mr. WILSON. I have been listening to the Senator, and it seems to me that what he has proposed is met precisely by the actions of the Defense Acquisition Board. That is exactly what they have done. Before they get to milestone 2 for this first phase, this first generation system, they have to make just such a decision. But to cut the funding at this point will not allow them to make that decision intelligently.

Does the Senator agree with that?

Mr. GLENN. I do not necessarily disagree with that. We came down to our 4.5 figure from the 5.9 that the administration originally requested with the idea that this cut out much of that deployment capability. I am afraid that if we get the 3.7, and we already know that the House is at 3.1, and we know that in conference we will be compromising, we will be cutting the funding overall and we will not be able to do the adequate research job that I think is important.

The PRESIDING OFFICER. The time of the Senator has expired.

Mr. EXON. I yield 2 additional minutes to the Senator from Ohio.

Mr. GLENN. I want to give them all the money they can use adequately on research.

If we go to the 4.5 level, it means we will have to be at a percentage increase of 25 percent. In research circles, they usually figure that in a project like that there can be an increase of 15 to 25 percent, something like that—certainly not over 30 percent—and still spend the money properly. So this is a natural expansion, as I see it.

Some of the people there have talked about \$4 billion being the absolute rock-bottom level they can take without cutting this project back dramatically. I do not want to see that kind of research cut back dramatically. So we are talking about 4.5, and the House is at 3.1. We are going to be at about the halfway point that the Senator from Louisiana and the Senator from Wisconsin are talking about here when we come out of conference. If we go to conference with their 3.7 figure, we are going to be cutting basic research out of the SDI Program.

I think our 4.5 figure was a reasonable one. We know the feelings in the House on this. I do not want us to deploy any parts of this that will cut into the basic research.

I think the administration made a grievous error. I think it was ridiculous, at this stage of development, when we have 10 or 15 years before we really have all the laser, computer, and particle beam technology put together, so that we can make a rational decision whether or not to go ahead. To try to push that forward and spend major portions of the money now on deployment of a partial system that would not be adequate unless we make these other breakthroughs, was the wrong way.

I support the research, but I do not support the deployment at this time.

Mr. JOHNSTON. Mr. President, I yield myself 30 seconds simply to say, if you look at the SDI budget, you will find that increases are all in SBKKV, not the beam weapons that the distinguished Senator from Ohio talks about.

Our level more than adequately funds the beam weapons program. That is the basic research that needs funding.

Mr. President, I yield 15 minutes to the distinguished Senator from Wisconsin.

Mr. PROXMIER. Mr. President, I thank my good friend from Louisiana.

Mr. President, there is no other person in this Chamber who is more concerned about this country's national security than the senior Senator from Louisiana.

BENNETT JOHNSTON has an eagle eye for what really enhances this Nation's defense and what ends up wasting a lot of tax dollars.

On the issue of the strategic defense initiative, he has no equal in the Senate in expertise. He has dug into this issue deeper than any Member has. He has done his homework on this issue. He has an outstanding staffer working on this issue for him, Mr. James Bruce.

Mr. President, the Johnston amendment would authorize a total funding for the strategic defense initiative in fiscal year 1988 of \$3.7 billion.

Last year, Congress appropriated about \$3.5 billion for SDI. Our amendment would allow an increase in the SDI budget for fiscal year 1988 to cover inflation. Or, to put it another way, our amendment would allow SDI's budget to grow by about the same percentage that the Armed Services Committee allows the entire defense budget to grow in fiscal year 1988.

Mr. President, it has been 4 years since the President of the United States made his famous star wars speech that launched the strategic defense initiative. And in those 4 years, what have we seen?

Well, we have seen an SDI Program that's had \$9 billion thrown at it—\$9 billion.

We have seen a program whose budget has more than tripled since its inception.

We have seen a program whose goals and objectives are vague and constantly changing.

We have seen a program whose funding priorities radically change from year to year.

We have seen a program that is draining precious funds away from other vital military programs.

And we have seen a program that has been driven by public relations hype and political ideology, rather than sound military research.

Let us face the facts Mr. President, the evidence against this program is piling up day by day. An overwhelming majority of this Nation's top military and scientific experts have grave doubts about the pace, direction, and funding of the strategic defense initiative.

Here are the facts:

Last year, Cornell University surveyed the members of the National Academy of Sciences who work in the physical and mathematical sciences relevant to SDI. What have our Nation's best and brightest scientists concluded? By a 20 to 1 margin, these scientists said Star Wars could not be made survivable or cost-effective in the next 25 years.

Last spring, a task force of the American Physical Society produced a landmark study on directed energy weapons, which would be the linchpin for any truly effective strategic defense. The APS task force was made up of eminent scientists and military experts from places like the national weapons laboratories, the Air Force Weapons Laboratory, and the U.S.

Military Academy. What did the APS task force conclude? Incidentally, this task force was headed by a Nobel Prize winning physicist. It concluded that at least a decade of intensive research is needed before we will ever know whether these directed energy weapons are even feasible—much less whether they could be deployed.

As a matter of fact, they studied laser beams and particle beams. They said they would need improvement by a factor of 100. I do not mean 100. I mean a hundredfold improvement up to a factor of a million. In fact they said some of these weapons were not even according to sound scientific principles.

For the past 2 years, my staff and Senator JOHNSTON's staff have produced in-depth studies on the strategic defense initiative, in which SDI's own top scientists were interviewed. What have SDI's scientists concluded about their own program? They say that the research has not made all these spectacular advances that the administration claims it has made. They say comprehensive strategic defenses face tremendous technological hurdles, which at this point they're not sure can be overcome. And they have deep concerns about the current direction of the SDI Program.

The skepticism in the Pentagon over the feasibility of star wars runs far and wide. Oh, sure, the Defense Department publicly is standing behind the President's program. But privately, senior officers in our military have deep misgivings about SDI behind closed doors. Two months ago many of these deep misgivings finally surfaced with the Pentagon's Defense Science Board task force report on SDI. What did the DSB task force conclude? It concluded that there are major gaps in the SDI research and we "have no way of confidently assessing" how well and SDI system would perform, how much it would cost, or even when it could be deployed.

Mr. President, we have let the SDI Program become a budgetary rogue elephant. And now we're seeing it trample over other important military programs.

When Mr. Reagan first proposed his strategic defense initiative, he promised us a "long-term research and development program" that he said "probably would take decades of effort on many fronts."

Mr. WILSON addressed the Chair.

Mr. PROXMIRE. Mr. President, I will not yield until I conclude my remarks.

But what we have gotten instead of a long-term, stable research program is a crash program with a skyrocketing budget.

Presently we are spending more on SDI research than we spend on basic technology research for the entire Defense Department.

For fiscal year 1988 the Armed Services Committee proposes to spend a

staggering \$4.6 billion on SDI which would almost quintuple the program's budget since its inception. Or, put another way, while the committee has frozen the rest of the defense budget, it is proposing to increase the SDI by 30 percent.

Mr. President, what we are seeing here with SDI is a distortion of our funding priorities in the Department of Defense. And that distortion is creating serious funding problems for other military research efforts.

On June 11, I received a letter from William R. Graham, who is the President's Science Advisor. In this letter, Dr. Graham complains about the slow growth in the military's basic technology program. He cites "dire, long-term consequences" if we continue with this slow growth.

Well, one of the reasons basic technology research in the military has grown so little is because SDI has grown so much.

And if we continue to allow SDI to grow at such an exorbitant rate, we are going to see other military research efforts shrink even more.

(Mr. BREAU assumed the chair.)

Mr. PROXMIRE. Mr. President, It is time to calm down this program. It seems like every time we turn around, SDI is lurching in some new direction.

When Mr. Reagan announced his Star Wars Program in 1983, he claimed its goal was to render nuclear weapons impotent and obsolete.

In 1984, when the strategic defense initiative was formed, that goal was changed. All SDI would do is render nuclear ballistic missiles impotent and obsolete.

In 1985, SDI told us that the way to render these missiles impotent and obsolete was to pour billions of dollars into space-based chemical lasers.

In 1986, that goal changed. SDI told us that the way to render these missiles impotent and obsolete was to pour billions of dollars into ground-based free electron lasers.

In 1987, that goal changed. Instead of rendering ballistic missiles impotent and obsolete, SDI is reorienting its program to deploy early a leaky defense that barely makes a dent in the Soviet missile force. And instead of concentrating on ground-based lasers, SDI wants to pour billions of dollars into space-based rockets.

Mr. President, the SDI Program is getting to be like the Book of the Month Club. Every time we turn around it has a new selection of goals and objectives.

Last year, the administration told us that if we cut the SDI budget back to \$3.5 billion, it would delay for a number of years the date when we could decide whether SDI is feasible and whether an SDI system can be deployed.

This year, everything has turned on a dime. The SDI organization is sud-

denly saying that: Forget what we told you last year about the budget cut forcing us to delay a deployment decision. Now, lo and behold, with the budget cut SDI claims it can deploy a defense system early.

Why, all of a sudden, is the SDI Program reorienting toward a near-term deployment?

Have the Soviets broken out of the ABM Treaty? No.

Has there been some amazing technological breakthrough in the SDI research? No.

So why the change? Well, the answer is simple. SDI is reorienting toward a near-term deployment because they want to build up political momentum for the program.

They want to get hardware projects in place to build up a political constituency for the program.

Mr. President, as I've said before, it's time to come to our senses with this program.

It is time to take politics out of the strategic defense initiative.

It is time to have this program driven by realistic and technically sound research objectives—not ideology.

It is time to stop treating the SDI budget as something so sacrosanct that we are willing to endanger other important military programs to keep it overfunded.

Sure, all this talk about exotic laser guns in space is exciting. They make great cartoons on the network news, of Buck Rogers battle stations zapping Soviet missiles. It is great to dream about tens of thousands of missiles deployed around the country that will pick off incoming warheads like a skeet shoot.

But the threat we face today is World War I vintage mines in the Persian Gulf, and we still don't have a single modern minesweeper to send to that area to clear them.

The threat we face today are Iranian speedboats or terrorist barreling toward us in vans packed with explosives, and we are still putting together a centrally controlled military force to deal with terrorism.

The threat we face today is a formidable Warsaw Pact force in Eastern Europe, and we still do not have adequate training, equipment levels, close air support, and airlift capabilities for our troops in that region.

Star wars is not going to solve these pressing military needs, Mr. President. But if we continue with these huge funding increases for Star Wars, I can guarantee you that those needs won't be met.

The Johnston-Proxmire amendment, Mr. President, would bring some stability to this program. Our amendment would allow for a more measured increase in SDI funding, instead of a crash program with the funding eating

away at other important military programs.

The \$3.7 billion our amendment would authorize for SDI represents a 3.5-percent increase over fiscal year 1987.

Would \$3.7 billion still allow SDI to conduct a robust research program? You bet, Mr. President.

Would \$3.7 billion enable SDI to explore promising new technologies so that someday we might be able to answer the question of whether strategic defenses are feasible? It certainly would, Mr. President.

And would \$3.7 billion still make SDI the most heavily funded research program in the defense budget? Absolutely, Mr. President.

I strongly urge my colleagues to vote for this important amendment.

If you want a strong defense for this Nation, a defense that meets our immediate as well as our long-term security requirements;

If you support a vigorous SDI Program, a program that pursues sound and innovative research;

If you believe that our defense budget priorities should be determined by the real threats we face, and not by politics or ideology;

Then this is the amendment you should be supporting.

Mr. President, I yield the floor and I yield back the time to my good friend from Louisiana.

The PRESIDING OFFICER. Who yields time?

Mr. EXON. Mr. President, to move things along, I would like at this time, with the following caveat, to yield to my friend and colleague from California. I would like to say that the caveat that I am placing at this particular juncture will hold true for the balance of the time that this Senator controls time.

Therefore, I yield at this time for up to 10 minutes to my friend and colleague from California for any purpose, for questions that he has to ask or comments that he has to make, but not for the purpose of putting in a quorum call.

Mr. WILSON. I thank my friend from Nebraska.

The PRESIDING OFFICER. The Senator from California is recognized for 10 minutes.

Mr. WILSON. Mr. President, I wonder if my friend from Wisconsin, now that he has concluded his remarks, would be available for a question.

Mr. PROXMIRE. Yes.

Mr. WILSON. Mr. President, the senior Senator from Wisconsin made the point during the course of his remarks that there is division within the Department of Defense about the strategic defense initiative. Undoubtedly, through the history of the Pentagon, there has been division of one kind or another.

But is the senior Senator from Wisconsin aware of the recent action by the Defense Acquisition Board, the August decision taken with respect to the SDI Program?

Mr. PROXMIRE. Is the Senator talking about the recommendation for the deployment of the near-term technology?

Mr. WILSON. No. What I am talking about is the Defense Acquisition Board which, of course, was created by the reorganization bill which we passed just last year, which places in the hands of the Under Secretary of Defense for Acquisition a responsibility for making the milestone reviews. In this case, in August, with the full participation of the Joint Chiefs of Staff and, in effect, achieving a decision that reconciled all of the positions within the Pentagon, that milestone I review decision, validated the Soviet threat in terms of the missile threat to be repulsed by the strategic defense initiative. It validated mission requirements, approved phased development and not only approved phased development as a concept but went further and specifically approved as a system phase 1, the very architecture that my friend from Louisiana has been so critical of this morning, with the elements; and further that it approved a program, a quite specific program, for the demonstration and validation of that plan.

Mr. PROXMIRE. May I respond to my good friend?

Mr. WILSON. Does that not suggest to my friend from Wisconsin that there is no real division remaining within the Pentagon? This is the voice of the Pentagon speaking officially under the terms of the Reorganization Act.

Mr. PROXMIRE. Mr. President, let me point out why I think there is a split. In the first place, it was announced on September 18, just the other day, that the SDI objectives are as follows:

The technology research programs which are candidates for Phase I of the Strategic Defense System include:

Ground-based Surveillance and Tracking System (GSTS);

Boost Surveillance and Tracking System (BSTS);

Space-based Surveillance and Tracking System (SSTS);

Battle Management/Command and Control, and Communications (BM/C3);

Space-based Interceptor (SBI); and

Exoatmospheric Reentry Vehicle Interceptor Subsystem (ERIS).

None of those are exotic. All of those are standard.

Mr. WILSON. I do not think so, but my friend from Louisiana does.

Mr. PROXMIRE. Let me continue.

Then the Defense Science Board went on to say:

If the U.S. has a choice between:

1. No further BMD deployment on either side; or

2. U.S. BMD system meeting JCS requirements on the U.S. side, plus an equivalent system on the Soviet side, which of these two alternatives more effectively enhances U.S. security?

It is not clear, of course, that we will have such a choice, which is reason enough to proceed with a vigorous U.S. R&D program. If we do have a choice, it would be well to have analyzed the consequences of alternatives. It is clear that such an analysis has not been satisfactorily done.

I have a whole series—I do not want to take the Senator's 10 minutes—I have a whole series of 6 answers which they gave which contradict the position that the Defense Department is united on this and there is no difference of opinion. There is a difference of opinion and the Defense Science Board stated it very clearly.

Mr. WILSON. Is the Senator aware that the Defense Acquisition Board had the Defense Science Board report, as well as a great deal of additional evidence from the laboratories, from the contractors, from those who are engaged in the actual experience of providing the strategic defense initiative?

Mr. PROXMIRE. May I say to my friend from California, I am sure they have had the support.

I just cannot let this opportunity escape to point out that my good friend from California is making a terrific defense for his State. Forty-five percent of all of this money goes to California. How much goes to Wisconsin? Zip; zero.

And we have to recognize that there are only six States in the entire Union that get more of the SDI money spent than they pay in taxes for it. Twenty-two States get nothing at all.

So, of course, my good friend from California is making this defense and he is doing a fine job. I would, too, maybe, if Wisconsin got 45 percent of all the money. But this has turned into a pork operation.

And when you go to the Science Board, when you go to the scientists, go to the military experts, they complain about what is going on and there is a division among the top military experts.

Let me just read one other section on milestone decisions:

As a consequence of the current gaps in system design and key technologies, there is presently no way of confidently assessing.

1. System performance against JCS requirements;

2. System cost; or

3. Schedule

Therefore, SDIO effort for the next year or two should focus on filling these gaps.

That is the complaint by the Defense Science Board.

Mr. WILSON addressed the Chair.

The PRESIDING OFFICER. The Senator from California has the floor.

Mr. WILSON. Mr. President, it is very clear that the JCS did not agree with that assessment nor did anyone else on the Defense Acquisition Board.

Let me say that I am disappointed, frankly, in my friend from Wisconsin. There is an old bromide in the practice of law that if you got the facts, you argue the facts; if you got the case or the law on your side, you argue the law; and, if you have neither, you pound the table.

There is one corollary to that and that is that, if possible, you seek to impeach a witness or to discredit a position.

I would remind my friend from Wisconsin that the Midgetman programs would also benefit my State far more than any other, and it is worth 50 million bucks. I have led the fight in Congress against that. While you are handing out golden fleece awards, let me suggest that Minuteman is a superb candidate.

I do not think that we should allow the debate on any weapons system to degenerate into a suggestion that advocates for it or opponents making arguments against it are motivated purely by the economic impact upon their States. I do not pretend for a moment that I am indifferent to the fact that the national security interests coincide with the very good employment base for my State. I think that is a very happy thing.

Mr. JOHNSTON. Mr. President, would the Senator yield at that point?

Mr. WILSON. Let me just finish, and then I will be happy to yield.

Mr. President, much more important, though, than that kind of exercise, is the fact that my friend seems unfamiliar with what the Defense Acquisition Board did.

What they did was conduct a milestone review which validated a threat, validated the mission requirements; validated this specific phase in a phased development concept.

Let me shift to my friend from Louisiana, because it was really with him that I had several bones to pick.

Has my friend from Louisiana ever heard of a weapons system developing that did not occur in phase, unless it was something very simple?

For example, the M-1 tank; was that our first tank?

Mr. JOHNSTON. I think the Senator's point is a valid one, and he points out about this defense acquisition review of phase 1. What we are talking about here is whether we ought to fund, I think they call it milestone 1, or phase 1. That is what this increase would go to fund.

I think the question is: Should we fund that phase 1 or should we not? I think the panel itself, the Defense Science Board Task Force Panel has said we need more information before we fund phase 1.

I would be prepared to show chapter and verse from the panel's own program which has been put into the CONGRESSIONAL RECORD of July 14, 1987.

Mr. WILSON. Let me save my friend that exercise because, candidly, this is not the first defense science board panel that has given the Pentagon advice that it has wisely refused to take or that we refused to take.

The PRESIDING OFFICER. The Senator's time has expired. Who yields time?

Mr. EXON. I yield an additional—my friend from California asks for how much additional time?

Mr. WILSON. Five minutes.

Mr. EXON. I advise my friend from California that we have some other people supporting our position. I would at this time yield an additional 3 minutes, under the previous conditions, to the Senator from California.

The PRESIDING OFFICER. The Senator from California is recognized.

Mr. WILSON. Thank you, Mr. President. Let us go back to the BAMBI Program, of which you seem greatly enamored, as a basis for comparison.

Is the Senator from Louisiana suggesting that because it is the same technology in much the same way that Orville and Wilbur Wright's first venture into space was designated to be an aircraft, and the B-1 bomber is also an aircraft, that there is no change, no significant change? For example, let me just ask the Senator this:

Is he aware that the BAMBI had a single color-seeker which allowed it only to see a bright plume which as a practical matter meant that because of that it could only detect rocket plumes in one spectrum of light and therefore could be easily countered; whereas the weapon system that he has been so busy demeaning this morning has a multicolor seeker that can seek plume, booster, booster vehicle, reentry vehicle, orbital Asat's, space mines, and direct-ascent Asat's? That was one point on which I would have to offer a correction to my friend. He made the point that this system cannot see a direct-ascent Asat. It can.

Mr. JOHNSTON. Would the Senator yield for an answer?

Mr. WILSON. Yes. Bear in mind I have 3 minutes and I have another question.

Mr. JOHNSTON. The Defense Science Board Task Force Panel, under the Department of Defense, says as follows:

Precision targeting of the rocket hard body and the presence of the rocket plume is uncertain at this time. Before this problem can be addressed with confidence, extensive data gathering is needed on various types of U.S. and U.S.S.R. boosters.

I don't know how much progress they made but it ain't enough, according to the Defense Acquisition Board Panel.

Mr. WILSON. Well, I think that is out of context but let me ask the Senator this. Is he aware of the differ-

ences in terms of the computer capability between BAMBI and this modern technology?

Mr. JOHNSTON. Of course.

Mr. WILSON. Is he aware, for example, that the BAMBI computer can handle only a very limited amount of data and that it required thousands of watts of power? Whereas the SBI computer can actually do billions of calculations per second and requires tens of watts of power?

Mr. JOHNSTON. I am aware of that. Of course, there have been improvements. But again the DOD's own acquisition task force panel says that it is not good enough yet, it is not good enough to go into phase 1.

Mr. WILSON. Of course, it is not good enough. That is precisely why we need to spend more to take this further.

This is the first milestone of what is a four-milestone review process.

Mr. JOHNSTON. Well, there is a zero milestone which they are in now and which the SDIO panel says we ought to do, but they say we are not ready for milestone 1. Here is what they say: "Therefore, SDIO's effort for the next year or two should focus on filling these gaps." And they just talk about the gaps. A milestone 1 decision can be considered whenever sufficient progress is made to formulate with confidence a system concept. We are not ready for milestone 1.

Mr. WILSON. Let me tell my friend we have already passed milestone 1. That was the decision in August to which I referred in addressing my friend f90[S22SE7-221]{S12441}.

The technology for the manufacture of very large IR focal planes is not yet in hand. The availability of sufficient material for substrates may be a problem if yields are very small.

There is a major need to create an adequate data base of the phenomenology involved in SDI. There is very little available information on how objects look in space or how rockets look in boost phase. Component and system design are proceeding on the basis of assumptions and calculations which may or may not prove reliable. Some measurements are being planned and some instruments are being built but the responsibility and resources necessary for so demanding and important a task are yet to be assigned.

The design concept for a first phase is in an early stage and still quite sketchy. It takes the form more of a list of components than of a consistent design. Many tradeoffs have yet to be completed including those between ground based and space based defense, between sensors on BSTS and CV's and KKV's, between SSTS and GSTS, between discriminating against and killing decoys, between active and passive defense of CV's, etc.

A much more thorough and unified attack on the system design problem is necessary before a design can be confidently selected. The same quality of effort is needed on preliminary system design as is now being applied to component technology.

As a consequence of the current goals in systems design and technology, none of the current cost estimates can be relied upon.

They say, therefore, you need to fill in these gaps before you go to phase 1. Now, Mr. President, this is not some peacenik out somewhere saying that SDI is not ready for phase 1. This is the Department of Defense task force, Mr. President. It is in the RECORD. It is not some classified document. It is in the CONGRESSIONAL RECORD for July 14, 1987, page 19662.

If you do not believe that, Mr. President, read the "Report to Congress on the Strategic Defense Initiative," June 1986, that talks about these fast-burn boosters. It says:

Over the long term, directed energy weapons appear to hold the key to defeating some of the more stressing threats such as the fast-burn booster which could severely shorten the exposure time of energy missiles in their vulnerable boost phase.

That is from page VII-1 of their report.

It says the same thing in April of 1987.

Mr. President, what could be more clear? SBKKV, from the days of BAMBI to the days of High Frontier to the days of SBKKV, virtually every expert that I know about, the American Physical Society, the Department of Defense in its own report—who is saying it will work? Nobody that I know of.

Mr. President, General Abrahamson himself came to my office. We had a 3-hour meeting. I said: When are you going to be ready to make this decision? And he said: "Well, we cannot make a decision for deployment until the early nineties." And yet that is what this phase 1 is all about, Mr. President.

Mr. President, I invite, I implore the Armed Services Committee to please look at this budget for SDI. What is it the administration is doing? They are going to a phase 1 SBKKV. Their own people, Mr. President, the Department of Defense Science Board task force says they are not ready.

They say:

There is presently no way of confidently assessing: one, system performance against JCS requirements; two, system cost; or, three, schedule.

In effect, they do not know how much it would cost, when it could be available or whether it will work. In plain language, that is exactly what they say. They say before you can go to a milestone 1 decision, you have to "focus on filling these gaps."

Please, pray tell, somebody from the Armed Services Committee, please tell me why we do not fill those gaps before we put this money down the rat hole; before we cannibalize R&D from the rest of the Defense Department; before we cut personnel; before we cut acquisition and procurement? Why should we not do what the Department of Defense says and fill in those

gaps first before we go off on these experiments?

Look at this budget, Mr. President. They are working on kinetic energy weapons, miniprojectiles. That is \$102.9 million they want this year. Do you know what miniprojectiles are? That is the shotgun, where they shoot all this debris out in space. It can be catastrophically defeated. Everybody says it can be defeated. Dr. Brown, Dr. Miller—

Mr. WILSON. Will the Senator yield for a question?

Mr. JOHNSTON. Yes, I yield.

Mr. WILSON. Is he aware that not only does not everybody agree with that, but that very distinguished space scientists, space engineers, those with actual experience in contrast to the American Physical Society, including some who have been sharply critical of that report, not only disagree—

Mr. JOHNSTON. Who is the Senator speaking of?

Mr. WILSON. A former president of the American Physical Society, also a former director of the Los Alamos National Laboratory was sharply critical before the House Armed Services Committee hearings.

Mr. JOHNSTON. Critical of what?

Mr. WILSON. Of the American not he is aware that the George Marshall Institute study cites the Central Intelligence Agency's statement that it would cost \$90 million per retrofit in order to give this fast-burn capability which he relies upon as being able to defeat the SBKKV.

Mr. JOHNSTON. I am not aware of that figure, but if you are talking about \$90 million per retrofit, with 12 warheads per missile, you are talking about less than \$10 million per warhead.

Mr. WILSON. I am sorry, I misspoke. Per warhead.

Mr. JOHNSTON. \$90 million per warhead?

Mr. WILSON. Yes.

Mr. JOHNSTON. That would be \$9 billion per rocket. Is that correct?

Mr. WILSON. That is right.

Mr. JOHNSTON. No. That would be \$1 billion per rocket.

Mr. WILSON. The easiest way to calculate is to take the price per warhead and multiply that by the number of warheads we know to exist in the Soviet inventory. Let us say 10,000. We know there are far more than that. If you multiply that \$90 million per warhead by 10,000, you get to a very tidy sum, Mr. President, \$900 billion. That is rather a severe impediment to bringing about that kind of retrofit. It is more than the cost of the initial installation.

The PRESIDING OFFICER. Who yields time?

Mr. SHELBY addressed the Chair.

The PRESIDING OFFICER. The Senator from Alabama.

Mr. SHELBY. I yield myself 10 minutes.

Mr. President, I rise in opposition to the amendment offered by my friend from Louisiana.

As a member of the Armed Services Committee I was in the unique position in the course of hearings preceding the markup of this legislation to receive extensive testimony on the merits of the strategic defense initiative.

The administration's request for nearly \$5.7 billion for the program was thoroughly discussed by members of this committee and witnesses both for and against this level of funding.

After much deliberation, the members of the Armed Services Committee, working in a spirit of bipartisanship reported out of committee a funding level of \$4.5 billion for SDI, a cut of \$1.2 billion from the President's request.

I would have preferred that the committee had authorized a spending level closer to the President's request of \$5.7 billion.

I believe that a funding level of \$4.5 billion strikes a satisfactory balance between the need for healthy growth in this program and current budget constraints. Thus, I choose to support this figure as the minimum level necessary for national security.

There has been much discussion concerning the popularity of the strategic defense initiative. Let me point out that a poll released earlier this year by a highly reputable political research firm demonstrates that, "The public continues to strongly favor the development of the strategic defense initiative."

The poll further states, "The public is firm in its support for the concept of the strategic defense initiative." By 77 percent to 20 percent, the respondents said that they favor "a research program to develop a system to destroy incoming nuclear missiles before they reach their targets."

This data confirms what a majority of us in Congress and the administration have felt. That the American people believe that the SDI Program is vital to the security of the United States and research into this program should be of highest priority.

The Soviet Union has been investing billions of rubles, for many years, on an extensive strategic defense effort of its own. An effort that appears to include the development, testing, and deployment of traditional ABM systems and components that could be expanded quickly for nationwide ABM defense purposes.

In addition, the Soviets appear to be working toward the development of directed-energy weapons systems that can be used for strategic missile defense and to attack space targets.

Though our program ceade it clear that his main job is to rescue the Soviet economy.

He does not want to have to spend billions of rubles on an even more sophisticated high-technology competition with our country. A competition in which our country starts out with a decided advantage.

The strategic defense initiative—the ultimate high technology research project—is the one means by which the United States can maintain its advantage over the Soviets in technology.

Let us also not forget that it was SDI that played a large part in bringing Mr. Gorbachev back to the negotiating table—\$4.5 billion this year will show the Soviets that the United States is truly behind this program.

Thus, we will be in a no lose situation—Gorbachev will have to either spend the money or seek real agreements at the negotiating table.

A robust SDI Program is also critical as a hedge against nuclear war.

The strategic defense initiative offers the promise of rendering nuclear weapons impotent and obsolete.

Even a limited system would serve to significantly reduce the risk that the Soviets might launch a nuclear war.

There has also been a great deal of discussion of late over the narrow versus broad interpretation of the ABM Treaty and the leverage that one or the other version gives us at the current arms control negotiations at Geneva. I believe that the best leverage in talks with the Soviet Union can be gained through the authorization of \$4.5 billion by this body for continued research into SDI.

It has been the appropriation of healthy growth levels of funds by Congress to SDI that has the Soviets on the defensive, not our discussion of various interpretations of the ABM Treaty.

The strategic defense initiative is also important to the United States in terms of technological advancement. I can remember when President John F. Kennedy challenged our country in 1961 to put a man on the Moon by the end of that decade. Many believed that it could not be done. The technological barriers were too great.

Well, we all know what happened. The great minds at NASA got together and achieved the impossible. And along with a man on the Moon came major technological breakthroughs in computers and electronics that have changed our lives.

I believe that new, unforeseen breakthroughs can also be achieved through SDI.

Recent developments in the semiconductor and superconductor industries are just the tip of the iceberg in terms of technological advancement.

Just as in the Space Program, SDI research will result not only in the achievement of a seemingly impossible goal but also bring as yet unforeseen

technological breakthroughs that will change all our lives.

We must in our deliberations also take into account the actions of the other body. The House has chosen to cut the SDI funding level to \$3.1 billion. We need, now more than ever, to maintain the level that was reported out of committee to achieve any real growth in the program. To take our mark down to \$3.7 billion would result in, at best, a figure of \$3.3 or \$3.4 billion out of conference, a cut from last year's program.

Mr. President, let me once again express my opposition to this amendment to slash \$800 million from the SDI Program. The \$4.5 billion approved by the Armed Services Committee for this initiative is the absolute minimum amount necessary to sustain the progress already made. Anything less will serve only to increase total costs at the risk of national security.

I will be glad to yield to the Senator from Louisiana.

Mr. JOHNSTON. Mr. President, the Senator said that even a limited SDI would reduce the risk of nuclear war. Now, the Senator agrees with me, does he not, that a limited SDI would enhance the offensive capability of the country that had it?

Mr. SHELBY. It could in some ways. That is possible. But also a limited amount of SDI would make somebody blink and think twice. I do not know if we can ever cover every inch of ground defensively in this country. I am pushing, as the Senator from Louisiana knows, for the research capability. We do not have a lot to deploy now, but I think we should fund research in the lab. That is what I am advocating today. Do not cut research, do not cut back on where we could go.

Mr. JOHNSTON. The Senator would agree with me, would he not, that the hope of the research here is for the beam weapons, the laser weapons, the neutral particle beams?

Does the Senator prefer the space-based kinetic kill vehicle deployment in the mid-1990's?

Mr. SHELBY. I am not ready to defend anything other than the money for research right now. I believe that is what set us apart in the past. I believe that is the cutting edge of the future. That is why I want this money, for research and development in the lab.

Mr. JOHNSTON. I would tell the Senator that if you look at this budget—and that is why I am anxious to have the Armed Services Committee really look at the budget. Frankly, I think the Armed Services Committee said, "What has the House got? They have \$3.1 billion. We better get a big number."

Mr. WILSON. Will the Senator yield at that point?

The PRESIDING OFFICER. The Senator from Alabama has the time.

Mr. SHELBY. I yield to the Senator from California.

Mr. WILSON. My friend from Louisiana has made that point about three times and that is a little more than I can stand. As my friend from Alabama will testify, my friend from Ohio, and others who participated in this debate, we did not simply consult the figure that the House took. In fact, I believe when we took our deliberations the House had not yet acted. The fact is we looked at and debated very carefully the effect of the cuts and there was a very spirited debate on precisely this number of \$4.5 billion.

The debate was not, "Well, what can we do in conference? What are we going to do about the House number?" It related to specific impacts of cuts in funding.

Now, the Senator is clearly unaware of that. I think he should be made aware of it. If he is sufficiently interested, the chairman is here, and he will be able to also consult the transcript of the hearing.

The PRESIDING OFFICER. The time of the Senator from Alabama has expired. Who yields time?

Mr. SHELBY. I yield 5 minutes to the Senator from California.

The PRESIDING OFFICER. The Senator from California has been yielded 5 minutes.

Mr. WILSON. I thank my friend, the junior Senator from Alabama, who has already in his very brief time in the Senate proved a very valuable member of the Armed Services Committee. The point he makes is one that cannot be overemphasized—he has done an extremely good job of making the point—that by shortcutting our research effort we put ourselves in a position where we can really never get the kind of weapons that the Senator from Louisiana apparently wishes.

Let me point out that this is a long road, as it was a long road from the Model T to modern automobiles, a long road from Kitty Hawk to an advanced technology bomber.

Mr. President, what we are dealing with is phased development of a very complex set of systems, and what I would point out is that in this long, complicated process, with all kinds of information available and all kinds of checks at steps along the way, before this first milestone review was taken not only the Defense Science Board Panel, to which reference has been made this morning by the Senators from Wisconsin and Louisiana, but about a dozen other working groups provided information that went into the decisions that flowed from that first milestone review decision by the Defense Acquisition Board.

They are proceeding quite logically and by a process that does not take anything for granted, not just to a

near-term deployment but hopefully to a phase 2 that would bring about the kind of weapons the Senator from Louisiana apparently thinks are the answer.

I hope we can get there, but I can tell him we will not get there by cutting spending. That is a strange logic. Indeed, it is very strange. Everything that is contained not just in the number agreed upon by the Senate Armed Services Committee but even in the President's request, which was higher, is permitted under the narrow interpretation of the ABM Treaty to which the Soviets have now agreed, so in effect the Senator is asking us, for reasons that escape me, to cut below a level that is approved even by the Soviet interpretation of the ABM Treaty. I do not know by what logic we are going to more quickly arrive at phase 2. What we have to do very quickly is to be aware of what the impact is if we fail to follow the path that has been set.

This is a development decision that would need to be taken before deployment. It would involve development and testing. We are not there yet. We have taken the first. We have approved the concept. We have approved a demonstration and validation of the research program plan.

Now, over time, if we do not develop what we should, if we rely purely on kinetic energy interceptors and the kind of radar or passive electro-optical sensors that would be used in conjunction with them, we can expect the Soviets to develop countermeasures, so that over time, as our capability increases, if enough time elapses and we have not done more, it will begin to deteriorate; we will experience some degradation owing to Soviet countermeasures.

So the next step is to go to directed energy systems and active discrimination sensors and after that to advanced directed energy weapons and support technologies, all of which will take time and most assuredly it will take money.

Mr. JOHNSTON. Will the Senator yield at that point?

Mr. WILSON. We did not wait in the history of weapons development to be able to put into the air the advanced technology bomber. At some intermediate point we had a P-38 and a B-17 and a B-29, because people are not simply watching. It is not that the other superpower has an academic interest in this. They have been engaged for years in spending as much for defense, indeed more, than their offensive inventory, which is staggering. So they are not simply passively observing an academic exploration.

The PRESIDING OFFICER. The time of the Senator from California has expired.

Mr. SHELBY. Mr. President, how much time remains on each side?

The PRESIDING OFFICER. The Senator from Louisiana has 67 min-

utes remaining and the Senator from Alabama in opposition to the amendment has 72 minutes remaining.

Who yields time?

Mr. JOHNSTON. Mr. President, I yield myself 2 minutes.

Mr. President, I think the Senator from California, and indeed the SDI Office, are making a fundamental mistake when they speak about the phased deployment of SDI as if the SBKKV, the orbiting rockets, are a necessary first step to get to the beam weapons. I think the Senator from California says it was a long step from Kitty Hawk to the Stealth bomber. And the suggestion is, therefore, that we need to go to spaced-based KKV's before we go to the beam weapons.

Mr. President, that is the fundamental question before the Senate, should we go to space-based KKV's, because I can assure the Senate, Mr. President, it is not a step. It is a choice. You can have one or the other but you cannot have both unless we have found some new pot of gold at the end of the rainbow. The Department of Defense has already said that the cost of space-based KKV—which is only partially effective, less than 20 percent, which does not protect the American people but interferes only with the "timing of the Soviet attack." That is exactly what they have said. That costs \$100 billion to \$120 billion according to their estimates. That is in the face of course of the Acquisition Board task force that says we do not know what the system costs.

But, Mr. President, you cannot put \$100 billion or \$120 billion into a KKV partially effective system and then come back and put in beam weapons on top of that. I mean, these are not like injector razors where you can take the space-based KKV's out and put in the beam weapon.

The PRESIDING OFFICER. The time of Senator has expired.

Mr. JOHNSTON. You have to have one or the other, Mr. President. They are fundamentally different systems.

The SBKKV is fundamentally flawed. Sure they are improving the sensors, and they are improving the burn time on the rocket. But as their own reports say, they cannot be defended. They can be catastrophically defeated by the fast-burn booster and done so at a cost that is much less than our deployment of the space-based KKV's. It is fundamental. It is clear, Mr. President. I wish again, and I challenge the Armed Services Committee to look at the budget, and to focus in on what it is they want to do. It is spaced-based KKV's. That is where all the increase is. There is less than a 1-percent increase in the beam weapons technology. I am for the beam weapons. On my Subcommittee on Energy and Water I increased the number in the House bill by \$30 million because that funds the base pro-

grams of the national labs which do the beam weapons. That is where the money ought to be. We should not be raiding the rest of the defense budget to fund these experiments. The national test bed; for example, what is that for? That is to run computer experiments on space-based KKV's with a projected efficiency of less than 20 percent.

Mr. President, it does not make any sense.

The PRESIDING OFFICER. The time of the Senator from Louisiana has expired. Who yields time?

Mr. SHELBY. I yield 10 minutes to the senior Senator from Alabama.

The PRESIDING OFFICER. The Senator from Alabama is recognized for 10 minutes.

Mr. HEFLIN. I want to thank my colleague from Alabama for making time available to me at this time. I am working with the Bork hearings on the Judiciary Committee, and I appreciate his courtesies and that of the Senate in order that I might get back to those hearings.

Mr. President, I rise in strong opposition to this amendment which would reduce by nearly \$2 billion the funding requested by the administration for the Strategic Defense Initiative Program. This is some \$800 million below the Armed Services Committee recommended level. In my judgment, this amendment, which would reduce total SDI funding to \$3.7 billion, is ill-advised at a time when the United States is embarking upon a vigorous and comprehensive research program to analyze and design defenses that enhance the security of our Nation and our allies, provide a hedge against a Soviet breakout of the ABM Treaty, and ultimately, if feasible, provide options on whether to develop and deploy advanced defensive systems. As I have said many times before in this body, SDI represents a welcome shift in our strategic policy from one which relies upon the doctrine of mutual assured destruction for deterrence to one based upon a commitment to self-defense. The effect of this amendment would be to gut many of the existing programs now ongoing within the SDI organization, threaten critical elements of the program, and undermine the promising arms control negotiations on reduction of strategic offensive arms.

In the 4½ years since its inception, the SDI Program has made significant technological progress and has provided strong incentives to the Soviets to enter into serious arms control talks. On March 23, 1983, when the President made his historic announcement initiating the SDI Program, I was one of the first in Congress to officially congratulate him on his initiative and foresight. It was the right decision at the right time and placed us on a track of building a more balanced strategic

force which would no longer rely entirely on the threat of retaliation to assure nuclear deterrence.

Mr. President, this is no time to cripple a defense program that has shown such excellent progress and brought the Soviets back to the negotiating table.

Regrettably, Congress has seen fit to make deep cuts in the President's SDI budget request every year since its inception. This year looks particularly bleak since the President's request of \$5.68 billion for DOD and Department of Energy SDI funding has already been slashed down to \$3.1 billion by the House of Representatives. Then, Mr. President, the Senate Armed Services Committee cut the total request down to \$4.5 billion. Mr. President, our colleagues who serve on the Senate Armed Services Committee are going to have to go to conference with the Members of the House Armed Services Committee. Because of the unreasonably low funding level agreed to by the House, our colleagues are going to require absolutely as much negotiating room as possible in order to have any hope for an acceptable compromise in the joint conference. Even with the \$4.5 billion level set by the Senate Armed Services Committee, the final SDI total funding level is likely to be below \$4 billion. Mr. President, while I would have preferred that the Senate Armed Services Committee provide a level of funding closer to that required by the administration, the level of funding agreed to by the committee is, in my judgment, the minimum acceptable funding level for the SDI Program in either department if we are to continue the intensive research already begun in many defense technologies.

Mr. President, let me take just a moment to say a word about that \$4.5 billion figure. Let me emphasize that that funding level is for both the Department of Defense and the Department of Energy. The real DOD figure is about \$4.1 billion. Even with \$4.1 billion, the SDI Program in the DOD will experience at least a 1-year program delay. This means that key projects in "theater missile defense," directed energy, battle management, survivability, and lethality will be severely reduced and delayed.

If we pass this amendment, it would no longer be possible for the SDI Program to keep many of its major programs going along at the currently reduced level. This amendment will result in a funding level for fiscal year 1988 which will force even more severe cuts in major programs and elimination of a great many others than previously expected. In my judgment, this is not the time to force such far-reaching decisions—decisions which will preclude future options for defending our Nation and tie the hands of our arms control negotiators.

In particular, I am concerned that some of the ground-based elements of the SDI Program, which provide us with high confidence and survivable hedge options for our future security, will be endangered by severe budget reductions. These elements can be based securely on our own soil should the need arise, and they can preferentially defend high valued targets to preserve deterrence. It is not wise to sever the ground-based legs of a multi-tiered SDI concept for ultimately protecting this Nation against any nuclear missile attack, nor is it prudent to force the elimination of the more mature ground-based elements before we have perfected the longer-term technologies, such as directed energy weapons [DEW].

Thus far, SDI has done a good job at taking a balanced approach toward ballistic missile defense by stepping up the pace of research on advanced, long-range defense concepts, such as directed energy devices, while continuing work on more mature, nearer term BMD concepts. This is an approach I have advocated since the inception of the SDI Program. However, in my judgment, the SDI Program should place greater emphasis on research in conventional defense technologies. The United States must maintain the option of deploying a BMD system of relatively mature technology within a decade. I believe this is an appropriate response to the ongoing and extensive Soviet antiballistic missile effort. The Soviet Union has had a very active BMD Program for many years and, as we all know, has constructed an ABM system around Moscow. They are also engaged in extensive research on lasers and neutral particle beams for a strategic defense. Many of the Soviet Union's BMD technologies could be developed by the early 1990's. It is vital to our Nation's security that we provide a deterrent to any further Soviet decisions to expand its ballistic missile defense capabilities beyond that permitted by the ABM Treaty.

Mr. President, advances in BMD technologies and activities currently being undertaken by the Soviets are of grave concern to me and I know they are to many of my colleagues. In that regard, I have urged the administration, even signed correspondence to the President, to declassify certain information regarding Soviet BMD activities. In my judgment, this would be very helpful in convincing many of the doubters of the American public and Members of Congress who traditionally oppose the SDI Program that it is essential that the United States move rapidly with our research toward the development of a strategic defense against ballistic missiles.

The ability to respond to unforeseen national and international developments quickly and effectively consti-

tutes one of the greatest reasons for pursuing SDI research. I wonder, Mr. President, what could be more stabilizing than the ability to defend one's homeland against nuclear attack—deliberately or, certainly, accidental? Thus, today we see the Soviets well ahead in ballistic missile capabilities and our land-based ICBM's growing increasingly vulnerable, further adding to a situation that is destabilizing rather than stabilizing.

The Soviet threat is real. Because much of it is classified, I am not able to go into details in this forum. One of the objections of SDI is to evolve with the threat to our Nation. If vital programs are further cut, delayed, or eliminated, as they most assuredly will be if the amendment passes, the program will not be able to evolve with the threat and the program will not be able to live up to that threat.

Since its inception, the SDI Program has shown great progress and substantial success. Many times in the past, I have mentioned the June 1984, Army "homing overlay experiment" which demonstrated the capability of a non-nuclear missile to intercept or destroy an incoming warhead outside the Earth's atmosphere. Also, Mr. President, in June of last year, the Army's "flexible lightweight agile guided experiment" or FLAGE demonstrated the ability to intercept targets within the atmosphere using nonnuclear means. On May 21 of this year, the Army was again successful in testing the FLAGE missile against a U.S. tactical missile as part of the strategic defense initiative program. This new experiment, known as the FLAGE "Follow-On," verified the FLAGE's guidance and control technologies that can provide the accuracy required for a nonnuclear kill of tactical ballistic missile targets within the atmosphere.

In the last year, the SDI Program has had a great many successful experiments and technological developments further confirming the potential for strategic defense systems. For example, last year during the Delta 180 experiment, the SDIO successfully accomplished the interception of a target in space. This kinetic energy interceptor experiment demonstrated the acquisition of boosters from space and added to our understanding of plume data. In the area of directed energy, we have had major successes in several free electron laser experiments. For the first time, wave lengths were produced that may be suitable to space applications. Also, for the first time, we demonstrated a device that will allow for the acquisition and tracking of cold targets in the mid-course flight regime. Experiments with the Alpha laser demonstrated that beam quality and brightness can be produced in a design suitable for space applications.

In the area of sensors, we successfully developed an experiment that would allow for the examination of the auroral and other disturbances in the ionosphere and that could significantly disrupt strategic defense sensing devices. In addition, the first flight test of the airborne optical adjunct airplatform was successfully completed. Also, Mr. President, radiation hardened infrared detectors have been developed which could significantly improve the survivability of a strategic defense system.

If we are to continue to make such great and progressive steps forward in this important research, it is essential that the Senate defeat this amendment. In fact, in my judgment, the reduction made by the Armed Services Committee is already too large in the view of valid U.S. national security requirements.

Many of the critics of the SDI Program argue that it constitutes a breach by the United States of the ABM Treaty. In my opinion, and many of the experts, this charge is totally unfounded. The ABM Treaty places limitations on the deployment of an ABM system, and prohibits development and testing of space-based, sea-based, air-based, or mobile land-based ABM systems or components. Now Mr. President, I have no intention of getting into a debate at this time on the virtues of the ABM Treaty or adding to the extensive discussions relative to what interpretation of the treaty is "legally correct" or incorrect. Over the last 4 months, particularly over the last week, the Senate has experienced a very healthy and beneficial debate on that subject. Currently, SDI is a comprehensive research program only and does not include development or testing inconsistent with the treaty. No decision on development or deployment of the system should be made until we know the results of the research. Nothing in the ABM Treaty prohibits this type of research. With the SDI Program, the United States is merely investigating the research of a wide range of technologies such as computers, sensors, radars, high energy particle beams and lasers. If a comprehensive strategic defense system proves not to be feasible, the program should nonetheless yield, as it already has, many important technological spinoffs.

The second criticism levelled at the SDI Program is that it will prove to be both destabilizing and provocative. In my judgment, development of a strategic defense system would only accelerate and guarantee a nuclear ballistic missile disarmament. If these new technologies do prove feasible and a defense system can be both cost effective and survivable, it would ultimately increase a potential attacker's uncertainty about the likelihood of a successful attack, which would enhance

deterrence. This is one of the objectives of SDI. The United States must pursue equal and verifiable agreements with the Soviet Union to produce real reductions in the nuclear arsenals of both sides. The SDI can be a crucial means by which such agreements can be reached.

With respect to arms control implications, it is heartening that we appear to be on the threshold of an agreement to eliminate all intermediate range nuclear missiles—an entire class of offensive weapons. This may pave the way to getting on with substantial reductions in strategic offensive weapons—the ultimate menace to security and stability.

Mr. President, it is no secret that SDI has been the incentive that has made the Soviets become more willing to negotiate seriously on reduction of offensive weapons after they walked out on the negotiations earlier. In short, SDI has brought the Soviets back to the negotiating table. While the Soviets complain about SDI, their return to negotiations and their extensive propaganda campaign against the program is irrefutable evidence that they respect our technological expertise in this field and strongly believe that SDI will work. They respond to strength and they are always more conciliatory when we have a technological advantage in a particular class of weapons.

By no means am I implying that SDI is, or should be, a bargaining chip in the arms control process. It is a research program that must be vigorously continued to serve as a stabilizing influence in super power relations. In that regard, it must not be traded away. I remember that it was the safeguard ABM system and the technical superiority it represented that led the Soviets to agree to the ABM Treaty in the first place. It was not some laboratory curiosity that impressed them, but a substantial and sustained program that produced viable and visible results. The SDI Program must, likewise, be sustained over a long period of time to realize its full potential. The more progress it achieves, the more remote will become the chances of nuclear conflict.

Mr. President, this amendment tends to eliminate the efforts aimed at a demonstrable military capability, as well as those aimed at substantive evaluation of military capabilities. Furthermore, it suppresses the program that would provide a focus for the technology. This amendment is a major departure from the current SDI and, if passed, would require major reappraisal of the program. As I have said, this amendment would require the elimination or cutback of a wide range of technological thrusts within the SDI Program. Vital contracts would have to be delayed or terminat-

ed causing a national decision to be indefinitely delayed. To reduce the program beyond the viability needed to protect our defense options would send the wrong signal to the Soviet Union, severely injuring the SDI Program and setting its development back several years.

Mr. President, because of budget reductions in previous years, the SDIO has already made most of the premature technology cut backs that it can handle. The SDI Program cannot proceed on schedule with vital elements of the system either missing or delayed. Therefore, I urge my colleagues to reject this disabling amendment and keep the SDI budget at the \$4.5 billion level established by the Senate Armed Services Committee.

Furthermore, we must provide our conferees with the negotiating room necessary to prevent a serious budget catastrophe to the program. I am not pleased about that particular reasoning, but because of the low funding level approved by the House, we are forced to proceed into a conference in this manner. While I realize that budget pressures are severe in the upcoming fiscal year, we simply cannot afford to cut so deeply into a defense program with such far-reaching promise.

Thank you, Mr. President.

The PRESIDING OFFICER. Who yields time? Does the Senator from Alabama yield time or does the Senator from Louisiana desire to yield time?

Mr. SHELBY. Mr. President, I yield to the Senator from Virginia such time as he may consume.

Mr. WARNER. I thank the distinguished Senator.

Mr. President, I wish to explain my regrettable absence this morning from the floor.

The Armed Services Committee had scheduled a hearing, to commence at 8:30 today, to receive the testimony of Richard P. Godwin, currently serving in the Department of Defense. While I had earlier discussed with our distinguished chairman—whose presence I note here at this moment—the ill advisability of scheduling a hearing to coincide with the important work of the Senate on this bill, the hearing nevertheless went forward.

It is interesting that the purpose of the hearing, as stated by the chairman during the course of a colloquy we had this morning, was to receive from this witness any recommendations he might have which could be translated into the form of amendments to be placed on this bill. It appeared to me, under questioning from me during the course of the hearing, that the witness recommended that there be no changes in law. So much for that.

Some Senators on this side of the aisle, members of the Armed Services Committee, could not be here on the

floor this morning for the important debate on this amendment because they had to attend a hearing of the Senate Armed Services Committee. Indeed, the hearing will now continue for some period of time because the chairman—and I thank him here—acquiesced in my request that not only should the Armed Services Committee receive the testimony of Richard Godwin, but also that the administration, through its witness, the Deputy Secretary of Defense, should be allowed to present its case in rebuttal.

It is not clear to me, having listened to Mr. Godwin this morning, exactly what are the areas of his particular concern, but the record will speak for itself.

So, Mr. President, I wish to extend my apologies to the proponent of this very important amendment. I wish to extend my thanks to the distinguished Senator from California, who very ably has replaced me this morning, and I hope he will see this amendment through, as I must now return to the Armed Services Committee to receive the testimony of Deputy Secretary Taft, along with other members of that committee.

I see that the chairman has risen, and I will forbear for a moment to allow him to address this issue.

Mr. NUNN. Mr. President, will the Senator yield me a couple of minutes?

Mr. SHELBY. I yield the Senator from Georgia 4 minutes.

Mr. NUNN. Mr. President, I do not intend to take all that time. I share the frustration of the Senator from Virginia about having a hearing at the same time we have action on the floor.

Normally, in September, we are through with the authorization bill and we are through with the conference. This year, unfortunately, it has been delayed. Therefore, a lot of things that come up during the fall of the year are going to have inevitable overlaps.

For example, we have a series of confirmations. We have the chairman of the Joint Chiefs, whose nomination has to be confirmed. If we are still on this bill next week, we will have a hearing in the course of this bill.

One of the most difficult things in the Senate is trying to be in two places at the same time. None of us can do it.

I thank the Senator from California and the Senator from Alabama for carrying on in our absence, as well as the Senator from Nebraska. We will have to go back to the hearings and hear Deputy Secretary Taft. We have heard from the Under Secretary of Defense for Acquisition, Mr. Godwin, this morning. He has made it clear that, first, he believes that the Packard Commission report is not being implemented. He believes it is not going to be implemented as things stand at this time. He also testified that he felt it was more honorable for him to leave

professing that the system could not work as envisioned by the Packard Commission and by Congress than to stay on and see it simply muddle through.

We have had some very interesting testimony. The Senator from Virginia is correct to an extent about Mr. Godwin's view preferring to find another alternative rather than changing the laws. He also made it clear that he believes changes will have to be made. He will continue to testify. So we will hear from the Department of Defense.

I think all of our colleagues should understand that we do have the likelihood of possible amendments coming up on the procurement system on this bill.

Partly because of this testimony and partly because of the news reports that have already been widely disseminated about reasons for Mr. Godwin's departure, I thought I had no choice as chairman than to hear directly in an orderly way from this witness.

I discussed approximately 2 weeks ago with my friend from Virginia. We told him we were going to have a hearing on this. We first set it last Tuesday. But we decided after being requested by Mr. Godwin to wait and set it today. So last Tuesday we served notice we would have a hearing this morning. Mr. Godwin wanted to be a civilian before he testified, but his resignation technically has not yet been accepted.

So that original goal in delaying for 1 week has not been technically met.

But I also want to make it clear to our colleagues that the Secretary of Defense or his deputy have been asked to testify. We gave Mr. Taft three choices: He could testify before Mr. Godwin, he could testify with Mr. Godwin, or he could testify after Mr. Godwin.

I did not feel there were any other choices available.

We asked him if he wanted to appear this morning. He decided he would prefer to appear after and that was in accordance with his own desires.

The PRESIDING OFFICER. The Senator's time has expired.

Mr. JOHNSTON. I ask for 1 minute.

Mr. SHELBY. I yield the Senator from Georgia 3 additional minutes.

Mr. NUNN. I thank the Senator. He did desire to appear after Mr. Godwin which was appropriate from my perspective. We need both sides of this and need to see if any other legislation is needed or it is simply a management problem.

Nevertheless, I felt we had to move on with the hearing and had to get this information to be able to properly handle this defense authorization bill in conference and matters related thereto.

So we will have Mr. Taft appearing later this morning. We will continue the hearing, and I hope we can continue the flow of this debate here.

I thank all of our colleagues for their understanding.

The PRESIDING OFFICER. Who yields time?

Mr. WARNER. Mr. President, if I may continue a minute.

Mr. SHELBY. I yield to the Senator from Virginia.

Mr. WARNER. Mr. President, for those who are interested, and I am sure many are in following the testimony of Mr. Godwin, this morning while the distinguished chairman is on the floor, Mr. Godwin stated that the Secretary of Defense was 99 percent supporting when he, Godwin, needed the Secretary of Defense.

We are still trying to unravel his testimony to find out precisely why the Packard Commission recommendations are not being implemented.

It is clear from testimony before the House, and shortly before the Senate, that the Secretary of Defense and Deputy Secretary of Defense have been solidly in favor of implementing the Packard Commission's recommendations.

I leave to those who want to spend time to try and unravel Mr. Godwin's testimony to find out just exactly what it is in his judgment that has been the reason for his disappointment and the need for departure.

I urge that people watching the hearing this morning do so in a balanced way and not to try and leap to a conclusion that a disappointed employee of the Department of Defense is coming over here with any concrete recommendations as to how certain things can be achieved.

I thank the Chair and I thank the managers for their courtesy.

Mr. SHELBY. Mr. President, I ask unanimous consent that the statements and the time consumed by the Senator from Georgia, the chairman of the committee, and the Senator from Virginia, the ranking Republican on the committee, not be charged to either side.

The PRESIDING OFFICER. Is there objection?

Mr. JOHNSTON. Mr. President, I will not object.

The PRESIDING OFFICER. Without objection, it is so ordered.

The Senator from Louisiana has approximately 63 minutes remaining. The Senator from Louisiana.

Mr. JOHNSTON. Mr. President, I yield myself 3 minutes.

The PRESIDING OFFICER. The Senator from Louisiana is recognized.

Mr. JOHNSTON. Mr. President, not too long ago I saw a Richard Pryor movie, the theme of which was that he had to spend a huge sum of money, as I recall it was \$10 million, in 30 days and if he was successful in doing that

he would be able to keep a large sum of money. He could not give it away but he had to spend it, and it was hilarious, Mr. President. He hired his friends at huge salaries, he bought all these big cars. You can imagine how Richard Pryor would carry off the theme of that movie. It was wonderful.

Mr. President, in a way the Senate Armed Services Committee reminds me of Richard Pryor. They have a 302(b) allocation where the Senate of the United States, indeed the Congress of the United States, says you can spend only a certain designated amount. But do they take that seriously? Oh, no, Mr. President. They have reported a bill to us which is \$14 billion in excess of the budget authority which the Congress says they can spend and they are \$10.6 billion over in outlays.

Now, Mr. President, if the Senate Armed Services Committee wants to be a serious player, if they want to really set priorities, if they want to be of help to the Senate, they will tell us how to carry out policy. Do not just add money, I submit, Mr. President, to every little program that comes along. The Department of Defense wants space-based kinetic kill orbiting rockets. Even their own people say they will not work. Why should we not fund them? We are only \$14 billion over in budget authority. Add another few billion dollars.

Well, when push comes to shove, Mr. President, and this gets to the Appropriations Committee, we are going to have to make the choices. I can tell you what our own internal memorandum say. Our staff sent a memorandum to the chairman of the full committee and of the subcommittee. Senator STENNIS sent me a copy of it, so this was not prepared for this debate. But they said what do we have to do to reach our goal. Here are the choices. One, cut out all fiscal year 1988 new procurement. That is one choice. Do away with all of it. No. 2, cut out one-half of all the operations and maintenance purchases. Or, three, cut out two-thirds of all the research and development.

A fourth option was to cut 200,000 to 300,000 personnel, and deny the pay raise, but they found out that that fourth option would only save half enough.

Those are the real world options, Mr. President. That is what we are really facing. And what does the Senate Armed Services Committee say? Increase SDI up to \$4.5 billion. Give them another 30 percent. Do they need the 30 percent?

Mr. President, look at their budget. I implore my friends on the Senate Armed Services Committee to look at the space-based KKV budget. That is a political budget, that is an ideological budget. That is not a real budget.

Mr. President, if you want a real budget, if you want a real description of the program, ask the Pentagon what they think of it.

Now, they had a panel, Mr. President, for the Under Secretary of Defense for Acquisition. He is the Under Secretary who deals with these programs. And they sent a report up to the Under Secretary and what did they tell him?

They said:

TECHNOLOGY

A great deal of work has been done on the components for the first phase and much of the technology needed is either in hand or well along. The principal pieces of missing technology appear to us to be the following:

1. The technology for the survivability of the SBKKV Bus is still uncertain. Vulnerability to attack by ground-based ASATS and lasers during peacetime is particularly disturbing.

2. Precision targeting of the rocket hard body in the presence of the rocket plume is uncertain at this time. Before this problem can be addressed with confidence, extensive data gathering is needed on various types of US and USSR boosters.

3. Serious questions remain unanswered about the ability of the passive IR sensors on Probe and SSTs to carry out discrimination against anything but the most primitive decoys and debris. In addition, the presence of cooled RVs would greatly reduce the range of the proposed sensors. Once again, the needed data base on US and USSR re-entry systems and decoys is lacking.

4. The technology for the manufacture of very large IR focal planes is not yet in hand. The availability of sufficient material for substrates may be a problem if yields are very small.

There is a major need to create an adequate data base of the phenomenology involved in SDI. There is very little available information on how objects look in space or how rockets look in boost phase. Component and system design are proceeding on the basis of assumptions and calculations which may or may not prove reliable. Some measurements are being planned and some instruments are being built but the responsibility and resources necessary for so demanding and important a task are yet to be assigned.

SYSTEM DESIGN

The design concept for a first phase is in an early stage and still quite sketchy. It takes the form more of a list of components than of a consistent design. Many tradeoffs have yet to be completed including those between ground based and space based defense, between sensors on BSTS and CV's and KKV's, between SSTs and GSTS, between discriminating against and killing decoys, between active and passive defense of CV's, etc.

A much more thorough and unified attack on the system design problem is necessary before a design can be confidently selected. The same quality of effort is needed on preliminary system design as is now being applied to component technology.

COST ESTIMATES

As a consequence of the current goals in systems design and technology, none of the current cost estimates can be relied upon. They vary widely, even assuming that the current Phase I concept holds. By the time

the necessary system and underlying technology work is complete, the design may change considerably and costs change as well. There are also sizable uncertainties in such matters as learning curves for space hardware produced in modest quantities, launch costs, and production costs for IR focal planes and hardened high speed data processing.

SCHEDULES

In view of the sketchy nature of the current system concept and the considerable uncertainty about Congressional support and funding, existing schedule estimates are uncertain as well. Current plans calling for a development decision in the early 1990's and an ICC in the mid to late 1990's are really no different than they have been; the term early deployment, which is sometimes heard, appears to mean only that a first phase would necessarily be earlier than later phases and not earlier than previously suggested. In any event current plans and decisions deal only with continued research and development. Decisions about full scale development and deployment will come later.

MILESTONE DECISIONS

As a consequence of the current gaps in system design and key technologies, there is presently no way of confidently assessing:

1. System performance against JCS requirements;
2. System cost; or
3. Schedule

Therefore, SDIO effort for the next year or two should focus on filling these gaps. A Milestone 1 decision can be considered whenever sufficient progress is made to formulate with confidence a system concept.

Mr. President, I do not know what could be more clear. The Armed Services Committee says spend another \$14 billion over the limit to fund a milestone 1 effort—and here it is in their budget. If anybody cares to look at their budget, it is right here, spaced-based KKV, milestone 1, undertaken at a cost of an additional billion dollars when the Department and the Under Secretary of Defense for Acquisition's task force says they are not ready to do it.

Now, Mr. President, if that is not a line from a Richard Pryor movie, I do not know what is. If these were the days where we had lots of money and we could throw money at everything, I would say let us do it. It is not. We are going to have to take this money from something else, from R&D. We are going to have to fire personnel or we are going to have to cut O&M—and that is probably what is going to happen, because that is usually what happens—in order to fund this program which will not work. And the report to the Under Secretary has said it will not work, or should I say we are not ready to spend the money which they propose to spend.

Mr. SHELBY. Mr. President, how much time do we have left?

The PRESIDING OFFICER. The Senator from Alabama controls 61 minutes.

Mr. SHELBY. I yield 4 minutes to the Senator from California.

The PRESIDING OFFICER. The Senator from California is recognized for 4 minutes.

Mr. WILSON. Mr. President, what is clear is that my friend from Louisiana is laboring under a misapprehension of grave dimensions. He has told us that a choice must be made between the space-based kinetic kill vehicle and the more exotic neutral particle beam and electron lasers, the kind of directed energy weapons that in fact we must also seek to achieve. But the question is not are we compelled to choose one or the other. What escapes him, notwithstanding the graphic explanation just offered him and what has been repeatedly made clear by General Abrahamson and the strategic defense initiative organization, is that we need both at different times and that we are on a path.

In the first place, the Senator from Louisiana has taken a great deal of our time this morning talking about the fast-burn booster that the Soviets can develop and thereby frustrate the SBKKV.

He has not responded to the fact that the CIA estimate is that it would cost \$900 billion for the Soviet Union to do so and that in the meantime we will be in fact moving—

Mr. JOHNSTON. Will the Senator yield?

Mr. WILSON. In a moment, I will be pleased to yield.

In the time that it will take them to spend that money and make that effort, the SDI program will move on to these more advanced laser technologies which are not limited by the development of the fast-burn booster. The fact is that we need both the kinetic and the directed energy system, and they will come in a logical sequence with enough time and effort and obviously funding.

To demonstrate both kinetic energy systems and laser systems, we can discourage the Soviets from making a tremendous investment—a tremendous investment—in fast-burn boosters. This in turn will limit our eventual investments.

Now he is urging us today to drop the ham to pick up the wienie. Not a smart thing to do. No one says this is going to be cheap, but the way he is proposing to do it is going to be very expensive.

Now let me just point out that he is concerned about a distortion in our R&D program. It is interesting that he should mention that in a year when, in fact, the President has announced the most expensive civilian research project in our history, the superconducting super collider, 6 billion dollars' worth.

He has also indicated that we ought to cut from the \$4.5 billion figure that the Armed Services Committee very carefully decided upon to a \$3.7 billion figure for which he offers no explanation

other than it is a percentage growth that appeals to him, and a modest one. It is one that will allow for no real growth. Nowhere in our history, Mr. President, have we, with an evolving weapons system, seen anything less than a 100-percent increase for the kind of milestone movement that in fact is offered by this technology—not during the Atlas Program, not during the Centaur Program—

The PRESIDING OFFICER. The time of the Senator from California has expired.

Mr. WILSON. I ask my friend to yield me an additional 2 minutes.

Mr. SHELBY. I yield to the Senator from California an additional 2 minutes.

The PRESIDING OFFICER. The Senator is recognized for 2 minutes.

Mr. WILSON. Mr. President, in 1985, my friend from Louisiana said that \$2.1 billion was the only defensible number for SDI—\$2.1 billion. Now that means that his current proposal, which is about 3.55, I think, for SDI is an increase of over 75 percent above his own prior position. That is just last year.

Does that mean that he has so increased his confidence in the program or so changed his view of the urgency of the threat that he is willing to go not to a 3-percent increase but to a 75-percent increase? I think it makes the point rather clearly.

Mr. President, in any weapons system of any complexity, the year before you start it and the year afterward is no valid comparison. The first and the second year is not much of a comparison. Looking at percentage increases tells you nothing—nothing—of any value. What we need to know is what is the need and will it work, and we will not find out by cutting funding.

There is a strange logic that says we have all kinds of gaps, all kinds of deficiencies, and we need to fill them in, and we are going to fill them in by cutting the budget so that we cannot conduct these experiments. He would do away virtually with the national test bed.

I might say he has a clear misunderstanding of that. I think I understood him to say that its purpose is to tolerate an environment for space-based interceptors exclusively. And that is quite wrong.

Mr. JOHNSTON. Mr. President, I did not say that.

Mr. WILSON. Let me just make it clear that the national test bed is constructed to simulate all aspects of an eventual system, including things that we can never test, notably the nuclear environment. And with all the limits on actual testing that we are imposing, such as the Levin-Nunn amendment, the test bed and other partial systems become even more important.

Now I would be pleased to yield for whatever questions the Senator from Louisiana may have.

Mr. JOHNSTON. Mr. President, I yield myself 1 minute simply to reply to this question that keeps coming up about what the CIA says about the cost of fast-burn boosters.

The Senator has said that it would cost \$900 billion for fast-burn boosters.

Mr. President, the CIA said in a—

Mr. WILSON. Mr. President, may I correct my statement? The CIA provided the estimate of threat. The Marshall Institute provided the cost estimate. I was not clear on that and I apologize. That is the fact.

Mr. JOHNSTON. Well, I would like to put into the RECORD an unclassified table from the CIA, submitted by letter of transmittal of May 18, 1987, which shows the total cost of all of the Soviet ICBM's deployed between 1971 and 1986 to be a total of \$118 billion. That includes procurement, personnel, O&M, and construction. That includes missile launchers and the whole thing.

Mr. President, I ask unanimous consent that that table, along with a letter of transmittal, be printed in the RECORD.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

CENTRAL INTELLIGENCE AGENCY,
OFFICE OF CONGRESSIONAL AFFAIRS,
Washington, DC, May 18, 1987.

Hon. Frank McCloskey,
House of Representatives,
Washington, DC,
Attention Chris Aldridge.

The attached table is provided in response to Congressman McCloskey's request for costs of Soviet ICBM systems. The data is unclassified.

If you have any questions, please call me.
JACK GRAY.

DOLLAR COSTS AND PRODUCTION OF SOVIET ICBM SYSTEMS¹

(Cost data are in billion calendar year 1985 dollars)

	1971-75	1976-80	1981-86
Estimated Dollar Costs:			
Procurement.....	13	19	10
Personnel, O&M, and construction.....	30	23	23
Total.....	43	42	33
Estimated Production:			
Missiles.....	1,050	1,100	400
Launchers.....	750	700	250

¹ The dollar value of Soviet defense activities measures the cost in the United States, at prevailing prices and wages and using US technology, to develop, deploy, and maintain military forces of the same size and with the same weapons as those of the USSR and to operate them as the Soviets do. Consequently, the dollar measures do not represent actual Soviet defense spending.

The PRESIDING OFFICER. The Senator's time has expired. Who yields time?

Mr. SHELBY. I yield 5 minutes to the Senator from South Dakota.

The PRESIDING OFFICER. The Senator is recognized for 5 minutes.

Mr. PRESSLER. Mr. President, once again, we are debating SDI levels of funding. Let me say that I have never felt entirely comfortable with the

enormous expenditures in this research effort. However, the fact is that the SDI is here to stay. The fact also is that the Soviets would not be negotiating a treaty with the President of the United States at this time if it were not for the existence of the SDI.

It is my strongest belief that the Communists only negotiate when they feel the other side is at least equal to themselves or has something superior. I know that there is a euphoria about the possibility of a major arms control agreement, but I have followed this matter of the SDI closely over the years and I submit that negotiations would not be going on if it were not for the existence of the SDI and the heavy expenditures the United States has placed on it. My book, "Star Wars: The Strategic Defense Initiative Debates in Congress," further elaborates on this matter.

My position has always been to support the research but I have been skeptical whether all of the proclaimed objectives can be achieved. I have already mentioned the potential arms control agreement which might result in lower spending for the United States. The SDI holds the possibility for major scientific breakthroughs.

As we all know from our experience with the space program and other major scientific research efforts funded by the Federal Government, the potential applications of technological research and development are often unpredictable. Research for space flight has produced innumerable nonmilitary consumer applications that have enriched our lives. The research has demonstrated the possibility of still further research and development options that previously may have seemed unimaginable. So it is likely to be with SDI research. What now is perceived as a defense or military program holds a potential for far more than that. There is, for example, the prospect of incredible breakthroughs in computer science applications and commercial or industrial uses and, I might add, medical applications of SDI-generated laser and particle beam development and research.

So for these reasons, we must avoid micromanaging every phase of SDI research. Let me also say, Mr. President, that we cannot overlook the vital role SDI can play in revitalizing our Nation's basic scientific research and technological capabilities. As one who serves on the Senate Science, Commerce, and Transportation Committee, I am frankly alarmed at the deterioration of undergraduate and graduate study and research at American colleges and universities. Students in engineering and "hard science" graduate programs often are outnumbered by foreign students at our universities. We seem to be producing and then exporting to other countries the next

generation of leading scientists, technicians, and engineers.

The investment in SDI is to a large extent an investment in the research and teaching capabilities of our higher education institutions. To the extent that this investment increases the potential attractiveness of scientific careers to American students, it is a wise and lucrative investment.

Mr. President, I would also like to add a few comments on the controversial issue of the ABM Treaty limitations on SDI research and development. I have endorsed the minority report to the Committee on Foreign Relations regarding interpretation of the 1972 ABM Treaty. That report substantiates why we should pursue a broad interpretation of the treaty.

Without repeating all the details of that report here, the conclusion is that the Soviets have interpreted the treaty to permit SDI-type development and testing by themselves. Since President Reagan proposed the enhanced SDI Program in March 1985, however, the Soviets have insisted that the United States is bound to a strict interpretation of the treaty which would deny it the opportunity to conduct certain development and testing activities. Furthermore, the report documents subsequent practices by the Soviets that bring into question Soviet observance of the treaty's requirements and prohibitions. Soviet treaty violations have been commonplace. I would not like to see our options hamstrung by objections from the Soviets who have demonstrated a pattern of ABM Treaty violations.

It is time to face this problem squarely by encouraging the administration to begin discussions with the Soviets on all aspects of the ABM Treaty, including compliance questions and possible treaty revisions.

It is clear that the ABM Treaty would need to be revised to permit deployment of some elements of an SDI-ABM system, let alone a complete ABM system that is not ground-based. It is less clear what type of ABM components testing is permitted by the treaty. Realistic testing in conditions that approximate potential conflict situations will be necessary to help us decide whether or not to proceed to the deployment of an ABM system not based on the ground.

So, in conclusion, Mr. President, I rise in opposition to this amendment. It is a difficult choice for me, but over the years, I have become convinced that the SDI is what has brought the Soviets to the negotiating table. The existence of the SDI has enriched our scientific capabilities and it is an area in which we should be spending money. We may need to reduce in other areas, but the SDI has become a key element, not only in our military

strategy, but also our diplomatic strategy.

Over the years we have gone through some very long and painful debates on this floor regarding the SDI. I recall well a lengthy closed session we had on the SDI. There have been some occasions in the past when I have supported some limitations on testing.

In fact, in the bill before us, the Armed Services Committee has placed limitations and restrictions on the program. This is not an open-ended bill. It is not an open-ended right to spend by the Pentagon. There also are many limitations in the House bill.

We are about to limit some of the intermediate-range missiles. We are finalizing an agreement to eliminate those missiles. But we still have the problem of the intercontinental ballistic missiles. Even if a portion of them could be stopped by an ABM system, it would greatly enhance our deterrence capability.

Margaret Thatcher gave a wonderful speech on the SDI to the Soviet people. I am surprised Soviet officials allowed it to appear on TV, but she talked about the value of deterrence, the value of having something to counter the other side's strength. The other side will not negotiate unless you have a credible deterrent; the other side will be expansionist unless you have a deterrent force; the other side will take advantage of you unless you have deterrence, something with which you can strike back in the future or immediately.

The SDI Program is in place. It appears that it is one of our key defense options. It is something that has shaken the Russians. In fact, only after we reaffirmed our commitment to the SDI did the Soviets come back to the bargaining table in Geneva. Many people have forgotten that.

A lot of people forget what was said just a few years ago about arms control. A few years ago, Ronald Reagan was the first to announce the objective of actual reductions of nuclear arms. The treaties that had been proposed before always permitted increases. The SALT Treaty was a license to increase the building of nuclear arms.

When Ronald Reagan first proposed a major weapons reduction, people in the arms community scoffed and there were commentators on TV who said this cannot be—there will be no reductions under this President. All we can do is limit future building. But now, in fact, the world will see an agreement with actual reduction of nuclear weapons. I have some concerns about that agreement. But the point is that agreement would not have happened were it not for the existence of the SDI—our trump card.

For some reason the Soviets became convinced that the SDI really gave us

an advantage. It was then that they decided to negotiate.

We cannot overlook the value of the SDI from a negotiating point of view. I feel the same way in other dealings with Communist countries. They only negotiate if they feel you are at least equal or superior to them in military strength. The SDI does give us that option, therefore I rise in opposition to this amendment.

The PRESIDING OFFICER. The time of the Senator has expired. Who yields time?

Mr. JOHNSTON. Mr. President, I yield myself 1 minute, simply to reply to the assertion that this has been what has brought the Soviet Union to Geneva. I think that is demonstrably not so. The treaty we have at hand on intermediate range nuclear missiles contains nothing about SDI. It has not been negotiated that way. It is a completely separate negotiation.

SDI will in fact be a subject of negotiations in the START Treaty, which is not made possible by SDI. It might be made impossible by SDI. But certainly it is not the reasons that the Soviets came to Geneva.

If the Senator can show me one whit, one iota of words in the intermediate range treaty that relates to SDI, I will stand corrected. But as an observer at Geneva I can tell you that it is irrelevant to the intermediate range treaty. It has not been discussed.

Mr. PRESSLER. Will the Senator yield 1 additional minute?

Mr. EXON. Mr. President, I yield 1 minute to myself and then I will yield 1 minute to my friend from South Dakota.

Once again, I find myself in a serious difference of opinion with my colleague and coworker from Louisiana. While I think it is true that SDI did not have anything to do directly with the treaty on short-range INF missiles, I do not think there is any question but what the record shows that the SDI more than any single factor brought the Russians back to the bargaining table, and out of that came what appears to be an understanding with regard to INF.

So from that standpoint I think SDI has played a key role.

I yield 1 minute to my colleague from South Dakota.

Mr. PRESSLER. I thank my colleague.

Let us remember that in Geneva 2 years ago the Soviets broke off the arms control talks. They said there was no hope for an arms accord. It was only after the SDI became clear, and that the Congress would support the research for it, that they came back to the bargaining table.

It is said that Andrei Gromyko, a young Soviet foreign service officer in Washington when the hydrogen bomb was developed, became convinced that if the United States set out on a re-

search program, it was likely to succeed. He was instrumental in the Politburo going back to the bargaining table to try to slow down the SDI Program.

Although the INF Treaty we are about to conclude has nothing to do with the SDI, this Senator is convinced it would not have come about without the SDI.

Although I do not believe the SDI can do everything some suggest, I believe it will save taxpayers many dollars in the long run.

Mr. EXON. I yield 1 minute to the Senator from California.

Mr. WILSON. Mr. President, the Senator from Nebraska and the Senator from South Dakota are absolutely right. I hope it has not escaped the notice of not only my friend from Louisiana but others, that at least a portion of the interest among the Soviet Union in INF was made very clear by Mr. Gorbachev in his announcement that they could go forward to a START agreement. But what is the price of the START agreement? Mr. President, it is known far and wide, it is no secret, that there is explicit linkage placed by the Soviet Union between getting rid of SDI and making any progress on the reduction of strategic arms.

If my friend from Louisiana does not think SDI has been a lever to bring about arms control, I think that is naive and I think he is in the minority.

Mr. JOHNSTON. Will the Senator yield at that point?

Mr. WILSON. If my minute has not expired, I will yield.

The PRESIDING OFFICER. The time has expired.

Mr. JOHNSTON. I yield myself 1 minute.

There is no question that the START Treaty, not yet negotiated or agreed to, does involve SDI. Of course it does. But the treaty at hand is the INF Treaty. I think it is clear that what brought the INF Treaty to fruition is not SDI but the deployment of Pershing missiles and ground-launched cruise missiles, Pershings having flight time of 10 minutes or less from Western Germany. The ability to decapitate the Soviet Union leadership before they could get down into the deep tunnels is what brought us the INF Treaty. That is why they are willing to give up about five warheads to every one we give up. Of course, SDI will be the subject of tough negotiations in the START Treaty, but that is not the treaty we have now. The treaty we have now is the INF Treaty.

The PRESIDING OFFICER. The time of the Senator from Louisiana has expired. Who yields time?

Mr. PRESSLER. I ask to proceed for 3 minutes.

The PRESIDING OFFICER. Does the Senator from Nebraska yield to the Senator from South Dakota?

Mr. EXON. I would simply say to my friend from South Dakota we have two Senators on the floor right now and both have pressing engagements at noon. Both would like to get in at least brief comments by that time. I would be glad to yield to my friend from South Dakota except we are hurting for time with two other Senators.

Mr. PRESSLER. I ask unanimous consent that my additional remarks be printed in the *Record* at this point.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. PRESSLER. Nobody who pays taxes in this country could relish the idea of spending \$1 trillion or more for the development and deployment of strategic defenses. But the fact remains we will be spending huge amounts in this area well into the future. We will because we must. We are not the only nation that has an interest in strategic defense, and we are not the only nation participating in research to develop missile, particle beam, laser, and computer technologies for defense applications.

So the real argument has been, and will continue to be, over the degree of emphasis and the amount of funding that should be put into SDI research. Where there exists a possibility for greater security through scientific breakthroughs in this area, it is our duty to devote resources to it.

Thus, we should avoid scrimping on, or devastating, the budget for the SDI. To achieve breakthroughs, sufficient funding must be provided to allow the research to achieve a critical mass level. Underfunding will destroy the research momentum that is necessary to achieve that level. While we may not be able to afford the maximum requested for SDI in the current budget deficit situation, we should maintain the program's momentum and permit us to capitalize on the potential fruits of this investment at an earlier time.

Mr. JOHNSTON. Mr. President, I yield 10 minutes to the distinguished Senator from Massachusetts.

The PRESIDING OFFICER. The Senator from Massachusetts.

Mr. KERRY. Mr. President, I congratulate the Senator from Louisiana on this issue and on this amendment. Unfortunately, the process here in the Senate, with the nature of our committee structure and the demands on time, draws a lot of Senators away from the focus on some things happening around them which are of enormous consequence but which time just does not allow adequate consideration for.

The Senator from Louisiana does us all an enormous service by bringing to the attention of the Senate what is at stake here in this debate.

This is not just a debate about \$4.5 billion versus \$3.7 billion. It is a debate about fundamental strategic doctrine that is being changed by the financial resources that are being committed to strategic defenses while many people are unaware of specifically what it is that the SDIO is actually doing.

I think this is the first time that the Senate as a whole has heard discussion on the Senate floor about something called phase 1, and about what phase 1 involved, and about the implications to our strategic doctrine and to this country of moving forward with the testing and development of a two-tier ballistic missile defense, phase 1 is not laboratory research. Phase 1 is different.

It is legitimate and permissible for the SDIO to say testing under phase 1 will not initially violate the ABM Treaty, because the tests will be in a fixed, land-based mode. But the fact remains that phase 1 development and testing moves us into a posture where we will have the ability to deploy a system, a national ballistic missile defense system, which we had previously rejected. Yet it will do this, by design, in a way that at best permits us to conceivably knock down 20 percent of the missiles fired at us.

Mr. President, that is a major shift in nuclear doctrine, and it is a shift which is taking place in the absence of important doctrinal debate, a debate which ought to be taking place whenever any nation in the nuclear world we live in contemplates such an enormous fundamental change in the doctrine of nuclear deterrence.

Previously on this floor I and others have raised the question about SDI and its dangers, including concern that it has an ever-shifting rationale, an ever-shifting rationale. I do not think the American people know at this moment that the President, in contemplation of a system, will supposedly put a shield over the United States, that that is not at all what we are talking about.

We are not talking about making nuclear missiles obsolete with phase 1. We are talking about defending our nuclear missiles with phase 1. In effect, we are planning on using strategic defenses to close the window of vulnerability.

We are now talking about a system of partial defenses. Phase 1, being partial defenses, will not save populations, will not save Americans, will not protect this country from nuclear war, but might create new instabilities through each sides fears of the other combining offense and defense, using the sword first and the shield second to defend against a ragged response.

Today, we are debating something different than just theory. This is the first year we have been debating something different than just theory because we have gone beyond the view-

graphs and we have gone beyond the artist's conceptions into what is now the research and testing and development stage of strategic defenses, as indicated a week or so ago when Secretary Weinberger announced that phase 1 had passed the first milestone of the program.

Mr. President, we have already spent \$9 billion in this program in the short span of a few years, since 1984. I am not sure the American people understand what it is that justifies this program going from \$900 million in 1984 to \$1.6 billion in 1985 to \$3 billion in 1986 to \$3.5 billion in 1987, and the \$5.4 billion in 1988. SDI is the single fastest growing portion of the entire military budget at a time when we find ourselves incapable of performing functions in the gulf because we do not have minesweepers, at a time when we have serious problems in conventional weaponry. But we ought to be asking the question of why it is we are rushing headlong into a whole new nuclear doctrine and spending extra billions of dollars to do it when we are struggling to have decent railway systems, when we cannot fund education, when we are raising the cost of Medicare, when we are cutting various benefits, and when people on farm and oil land in Louisiana, Texas, and elsewhere have serious competitive problems.

Last spring we began hearing about a secret early deployment. What we are seeing now is not a secret early deployment; we are seeing what is being called the first wave, a deployment which begins in the mid-1990's which will make our Nation probably commit more than 10 years total time and \$100 billion to accomplish just phase 1—phase 1 obviously implying there is going to be phase 2, phase 3, phase 4. And phase 1, although it has not been publicly explained—and incidentally, I might add, my office has called the SDI Office. We have asked for briefings; Precisely what is phase 1? Precisely on what are you asking us to spend this money? Briefings postponed, no briefings to date. But we have been able to figure out by looking at the environmental assessment which they have released something about phase 1 and what the architecture is. Let me tell you a little bit about what the program is. Six different systems and technologies based on physical principles that are well recognized at the time the ABM Treaty was negotiated. The six systems which are called candidate technologies by the Strategic Defense Office are designed to comprise our entire strategic defense system to be deployed in the 1990's. So we now have a new SDI system. This is what we are really talking about spending money on. It consists of a boost-phase, midcourse and ground-based surveillance and

tracking of Soviet ICBM's, two kinds of interceptors, a space-based interceptor or kinetic kill vehicle system now known as the SBI or as the SBKKV, which the Senator from Louisiana has talked about at great length, and a ground-based endoatmospheric interceptor system known as ERIS, and finally a centralized battle management and command communications control system.

The details of the architecture which will unite all these elements have not been publicly released by the SDIO. But the Strategic Defense Office has announced that flight tests of the two interceptor systems are already being planned for Vandenberg Air Force Base, Western Test Range, and at the U.S. Army atoll in Kwajalein. Similar flight tests are being planned right now at Vandenberg for boost phase, spaced based—space based, I emphasize—and ground-based surveillance and tracking systems and at Cape Canaveral Air Force Station for the latter two systems and at Kennedy Space Center for the space-based system only.

Could I have an additional 5 minutes? Do we have enough time?

Mr. JOHNSTON. Mr. President, how much time remains?

The PRESIDING OFFICER. The Senator from Louisiana controls 42½ minutes.

Mr. JOHNSTON. Mr. President, could the Senator make it on 3 minutes? I have a list of Senators just now coming to the floor.

Mr. KERRY. I appreciate that.

Mr. JOHNSTON. I yield an additional 3 minutes.

The PRESIDING OFFICER. The Senator is recognized for an additional 3 minutes.

Mr. KERRY. In addition, plans are being developed for assembling ABM components for the SDI Program at Edwards Air Force Base in California, at the Kennedy Space Center, at the Harry Diamond Laboratories in Maryland, at the Nevada test site, at the Arnold Air Force Station in Tennessee, and at Lockheed and Grumman.

All this boils down to the basics for a two-tier ABM system, one land based, the other space based.

Basically, the space based interceptor—SBI or SBKKV—is a kinetic kill weapon, modeled on the BAMBI system proposed in the early 1960's, designed to intercept Soviet ballistic missiles in the boost phase after they have been located and tracked by the BSTS or boost-phase surveillance and tracking system. Then, the endoatmospheric interceptor, based on the ground, working with space based and ground based surveillance and tracking systems, will shoot down additional Soviet warheads in the midcourse late midcourse and early terminal phase.

Based on a look at Soviet offensive capabilities, it is obvious that such a system would require thousands of space-based interceptors on a minimum of hundreds of platforms and additionally would require several thousand more ERIS interceptors on the ground. We would have no capability in phase 1 for interactive discrimination. We would also have little to no capability to intercept missiles in the terminal phase within the Earth's atmosphere. For these reasons, such a system could according to published reports only stop about one in five Soviet missiles, a rather limited goal which even then may not necessarily be reached.

From looking at phase 1, it is easy to conclude that it has very little to do with the President's dream of replacing nuclear deterrence with mutually assured survival by making nuclear weapons obsolete. To the contrary, phase 1 appears to be a system being designed to do no more than at best shoot down less than 20 percent of Soviet ICBM's if everything works properly.

By design phase 1 is not and cannot be capable of defending our population in the event of a nuclear war. It cannot replace mutual assured destruction as the foundation for deterrence by keeping our cities from being blown up should there ever be a nuclear war, but can at best defend some land-based systems and some command, communications and control systems if they are adequately proliferated and given redundancy.

The deployment of phase 1 will not have provided our population with the peace shield advertised on television. Phase 1 will not be population defenses at all, but merely an exceptionally expensive and complex way of closing the window of vulnerability about which we heard so much in connection with the MX debate.

Given that we have deployed 50 MX missiles, given that we are developing Midgetman, before rushing forward it seems to me we should have some analysis of whether phase 1 is needed to shore up our retaliatory capacity, or whether that capacity is already assured without deploying phase 1 strategic defenses.

We should be considering for example whether there are alternatives to phase 1 to accomplish its strategic objectives without abandoning the ABM Treaty and without creating new instabilities and uncertainties in the relationship between the superpowers.

We should be asking whether \$100 billion or more is an appropriate investment for a system designed to stop less than 20 percent of Soviet missiles. Before we throw that kind of money at it, it seems to me we should calmly assess whether this is the best way to strengthen deterrence—or whether alternatives like the Midgetman or arms

control might accomplish the same goal of preserving deterrence for the long term more cheaply, more reliably, and with less military, technological and strategic risk.

There are a lot of questions which we ought to have answered before we head down that road, Mr. President. We should have analyzed for us, for example, whether defenses which are only designed to stop less than 20 percent of Soviet missiles create the kind of instability so many have warned about when offensive and defensive systems are paired.

For example, we don't know whether the deployment of this form of SDI system will create an incentive for either side to strike first in a crisis on the theory that the defenses might be useless to stop a first strike, but perfectly adequate to stop a "ragged response" by a nation that has lost substantial nuclear forces.

We don't know whether either the United States or the Soviets will have to restructure its nuclear forces, or add to them to deal with this problem if we move forward.

We don't know whether such a system would enhance deterrence at all, or whether its deployment might make both sides edgier.

We don't know whether its even feasible for the United States to put the hundreds or thousands of satellites in space contemplated by phase 1, Mr. President, whether we will have the resources to lift the many tons of satellites required. This is another reason why we should be cautious about the administration's plans to move forward with phase 1.

In short, I am concerned that we as a Congress are falling behind in keeping with the rapid changes in this program. Because we are falling behind, we are having little impact on the decisions that are being made. If we are to provide adequate oversight over this program, we are going to have to insist on being informed by the SDIO before fundamental decisions are made about the future of U.S. nuclear strategy and SDI, not after the fact.

Because the SDI Office is moving forward with the tests for phase 1, the level of funding for SDI this year has real implications. Basically the only means we have to slow this program down—to give ourselves the opportunity to think through the implications of phase 1—is to restrict funding for the program to a level significantly below the \$4.7 billion authorized in the committee mark.

Allowing the SDI Office to move ahead with testing and development of phase 1 is a serious decision. The Levin-Nunn language does not affect the tests initially contemplated for phase 1. Yet those tests may have real implications for the ABM Treaty and arms control, even if they do not vio-

late the treaty. Similarly, we should recognize now that Congress has to make a decision about phase 1—is it a good idea for us to test and develop strategic defense systems whose deployment would be aimed at shooting down less than 20 percent of Soviet missiles?

Until the Congress knows more about phase 1, there is little we are in a position to do other than to restrain the spending on this program.

I urge the Senate to vote to lower SDI spending, and in the meantime, to seek detailed information from the SDI Office for the facts about phase 1. The decision that has already been made by the Defense Department is a significant one. We should recognize the decision for what it is—a decision to put us on the road to deployment of a strategic defense system that is far less than fully capable, incapable by design of even knocking down 20 percent of Soviet missiles. The implications of that decision have not yet been even fully recognized, let alone analyzed with the care our national defense requires. I have sought to obtain more information on phase 1, and I have been told by the SDI Office to wait.

As we wait, by this vote we should be suggesting to the President that the power of the purse is with Congress, that decisions of such magnitude, decisions which change years of fundamental policies pursued by Republican and Democratic presidents alike, cannot be the President's alone.

Congress too has a decision to make on whether it is wise to move forward with the testing and development a system designed to destroy less than 20 percent of Soviet missiles. Our decision on phase 1 of SDI must not be made by default.

Now, I support the notion that we should be doing research and I will vote for \$3 billion—some of research, an extraordinary sum of money in view of other things that we have to consider. But, Mr. President, \$4.5 billion is not calculated simply to fund a research program. It is money calculated to guarantee that we get so far down the road in this system and move so rapidly that before the Congress of the United States can even catch up we are going to be locked into this system which threatens to introduce profound new uncertainties in U.S. nuclear strategy.

We have yet to answer the most fundamental question of what happens when you mix offense and defense. Do you create the threat for a first strike capacity by either side? If a nation views itself as conceivably threatened by a defense, is there the possibility that it will decide first strike makes more sense?

Alternatively, is phase one a cost-effective means of "confusing" the decisionmaking process of the Soviet

Union if that is what it is intended to do. Is it possible that Midgetman and the deployment of the new 50 MX missiles reduces that window of vulnerability and so we need not spend billions of dollars to do what we could do far more efficiently and far much less expensively. I think Congress needs to decide these issues before we are locked into a program of testing and development which does not leave us an alternative and which by default changes fundamental strategic doctrines in place for decades. I hope my colleagues will adopt this amendment.

The PRESIDING OFFICER. The time of the Senator from Massachusetts has expired.

Mr. EXON. Mr. President, I yield 8 minutes to the Senator from Wyoming.

The PRESIDING OFFICER. The Senator is recognized for 8 minutes.

Mr. WALLOP. Mr. President, I agree with the Senator from Massachusetts; Congress ought to decide before it is locked into a testing program. The problem is he would deny our getting to a testing program that would give us that information. I would just say, as a matter of interest to Senators who are here or may be listening, that the details of the architecture are available if the Senator wishes to have a briefing, and to have the briefing he need only ask. There is only one portion of that which is classified and that is the threat assessment and requirements. You can have that as well, but it is necessarily classified.

Mr. KERRY. Will the Senator yield for a question?

Mr. WALLOP. I will not because I only have 8 minutes.

Mr. KERRY. Will the Senator yield for a question?

Mr. WALLOP. I yield for a question.

Mr. KERRY. The Senator should know that this Senator has called and personally been told we could not get it. Now, maybe your side is getting it and we are not or maybe the proponents are getting it and we are not. But would the Senator have objection to setting up such a briefing before we take a vote?

Mr. WALLOP. Mr. President, I have set up such briefings and found no attendance. There is a problem with briefings and that is that they have the ability to shatter assumptions, to make what is a comfortable thought less comfortable. There are unanswered questions, but the question remains how on Earth do you get to an answer if you deny us the possibility of doing it. The most extraordinary thing is that the Johnston amendment is a killer amendment for a very specific reason. It is not enough to accomplish the objectives of the program, but it is too much if we are to return to the old days of a comfortable embrace of the ABM Treaty.

Again, I have to say, the thing that amazes me is some among us in this body politic take the first look at the Soviets playing fast and loose with their obligations under the ABM Treaty or any other treaty, and their basic response is to restrict further the options of their own country in the vain hope, I suppose, that by even being meeker still, we will find a meek response on the part of the Soviet Union. History has not shown us such a thing.

I heard some talk in here about how this may change the theory of nuclear deterrence. I might suggest that the theory of nuclear deterrence is rapidly running out of credibility anyway as the Soviet Union moves more and more to rail mobile, and road mobile missiles which can be hidden, and cannot be targeted. As the Soviet Union moves more and more to replace the infrastructure of their own nationwide defense, as we have seen their battle-management radar system is complete, they have hot production lines of ballistic missile defense interceptors. They could, in fact, begin to establish a nationwide defense in a matter of months, if not weeks. There is no prohibition against the production of these elements of ABM equipment in the ABM Treaty. There is no prohibition against testing them together. There is only a prohibition against deploying them. But if you test these items, all of a sudden you have the capability for a nationwide Soviet ABM. This seems lost on opponents of SDI.

Let me talk just for a minute about the capabilities. It seems extraordinary that the authors of this amendment have not themselves been overly studious by visiting the labs or the contractors. It seems amazing that they can draw these conclusions without having talked specifically to the people who are in the laboratories, who are the contractors, who have tested various segments of these systems.

Mr. JOHNSTON. Mr. President, will the Senator yield at that point?

Mr. WALLOP. I yield for a question on the time of the Senator from Louisiana.

Mr. JOHNSTON. Is the Senator aware that I have been to Los Alamos, to Livermore, to Lockheed, to other places that do this, and Los Alamos supports this?

Mr. WALLOP. If the Senator has been there, I suggest he did not hear the briefings that took place there because in point of fact the briefings as to the technical capabilities and the advances of these assorted systems are nothing short of astonishing.

Mr. JOHNSTON. Will the Senator yield?

Mr. WALLOP. I will not yield further because my time is limited.

The point that needs to be made is that the one means by which this country could possibly reestablish a deterrence is to create some doubt in what is increasingly a Soviet planner's mathematical decision as to whether to attack or not. It is mathematical because our fixed-based systems and our submarine fleet—a major portion of which is in port at all times—is vulnerable to a Soviet missile strike. The aircraft arm of it is growing more incapable of penetrating Soviet air defense, as we see our ability to get advanced systems such as the B-1 fully funded and operating decline.

So we now see the two things that make the so-called hairtrigger that threatens the world are the fixed-based, fixed-silo, and intercontinental ballistic missiles. Once an assault is launched upon the United States, an assault launched on our strategic forces, the President of the United States has no choice but to capitulate, or to launch on a hairtrigger what he has available that is fixed based. Once the Soviet Union's warheads land on our strategic forces, at that moment, forever more those weapons are lost to us.

Then the Soviet Union, having launched its fixed-based arsenal on our fixed-base arsenal, thereafter has road mobile, rail mobile missilery and submarine missilery as well as aircraft. We have not, Mr. President, the capability, the intelligence capability, of targeting sufficiently those remaining assets to provide any safety for the American people.

If you want to restore the element of deterrence you must restore the element of doubt to the Soviet planner's mathematical conclusions that he can succeed in the first strike. Absent that, you have simply given him the opportunity to take at will what he wishes and to take from the American military machine any response of consequence. How do you do that? You do that by a strategic defense system that begins to take out those arriving warheads and those transiting missiles. And whether we like it or not, Mr. President, the Soviets know that it works. They are doing it, and have been testing it with a much more massive effort than have we.

I do not particularly like that which the Senate Armed Services Committee brought to the floor because I think it is too small. We have denied ourselves the ability to test and to advance tests by several years with that which the Armed Services Committee brings to the floor. Buy onto the Johnston amendment and you had better write off the program, and vote a complete denial of funds because it is an embrace of logic the ABM Treaty that holds we must remain defenseless in the face of Soviet nuclear weaponry.

If you wish to destroy the program, do not spend that small amount of

money that the Johnston amendment brings to the floor because, if you bring that amount of money, it will be wasted. The time is wasted beyond our ability to retrieve it. We cannot embrace the ABM Treaty and the theory of mutual assured destruction and continue the SDI Program toward the objective of providing a defense against Soviet nuclear weapons. The two are completely inconsistent. Wipe it out. It is not consistent to spend so much money, or enough money to waste it, and thereby deny this country the ability to determine if that capability exists. When we are talking about indulging ourselves in train systems, schools, and libraries, we must remember that we need to have a country to have school systems in and train systems in. The defense of this country is the one thing that is in the oath of every Senator.

The PRESIDING OFFICER. The time of the Senator has expired.

Mr. WALLOP. I thank the Chair.

I ask unanimous consent that my prepared statement and some charts be included in the RECORD.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

STATEMENT BY SENATOR WALLOP

Mr. WALLOP. Mr. President, I would like to begin by reiterating what many of my colleagues have said about the onerous effects of this amendment. It is a program-killer pure and simple. The choice is clear. If the Senate wants to continue a program that ever may provide this country with some deployment option as the SDI program is currently structured, it must fund this program, at a minimum, at the level requested by the Armed Services Committee.

In effect, Mr. President, the Johnston Amendment hits either too high or too low.

It is not enough money to continue the program without significant slippage and reductions in confidence, but it is far too much if all the Senate wishes to do is go back to the days following the signing of the ABM Treaty and support a level of effort research program. The latter is clearly not what the President has in mind, and, I would submit, it is not at all what the Armed Services Committee has in mind. Let us examine for a moment this year's Armed Services Committee report on this issue.

In its discussion of the objectives of the SDI program, the Committee made four points worth mentioning. It must be remembered that this report was drafted by the Majority, under the leadership of Senator Nunn, and does not fully take account of the views of the Republicans on the Committee, although I believe there is ground for significant consensus on both sides.

1. Quote: "The committee continues to support a robust SDI research program because it believes that such a program serves a number of valid U.S. national security interests. First, the SDI continues to represent an important response to the threat to U.S. national security posed by the Soviet Union's continuing strategic spending, both for offensive forces and for strategic defenses."

Hedges against Soviet break-out, Mr. President, can only be maintained by having deployable or near-deployable systems.

This, in turn, can only be achieved if funding is adequate to move certain aspects of the SDI program into development, complemented by a robust testing program. The Soviet Union does not just have a theoretical break-out capability. That capability is all too real. Indeed, some of us believe the process of breaking-out has already begun. The Soviets have warm production lines for ABM interceptors and radars. They have laid the battle-management radar network for a break-out. If the Soviets actually decided to end their adherence to the ABM Treaty, such as it is, they could begin deployments of interceptors in months, if not weeks. Our ability to respond to such a Soviet move is constrained largely by the kinds of resources we put into the SDI today.

Back in the FY 1975 budget, Mr. President, Senator McIntyre, then a member of the Committee, sponsored an amendment that prohibited the prototyping of any ballistic missile defense systems being researched by the United States. Let me repeat, no prototyping of any system, Mr. President, irrespective of whether it was allowed by the ABM Treaty. This had the effect over a number of years of focusing our BMD program on highly advanced technologies that might never be deployed and gave us virtually no near-term response options to Soviet break-out. While in a different form, a vote for this amendment would do exactly the same thing. Do we really want to go back to the strategic defense posture we had from the signing of the ABM Treaty through 1980? The Committee's judgment is "no" and it is a wise one.

2. Quote: "Second, the committee continues to believe that a portion of the SDI research program should emphasize options for near-term deployment as a hedge against the possibility of a Soviet ABM break-out in the near-term." It went on to say that, "The committee commends the SDIO for its expeditious pursuit of the ERIS missile technology, and directs the SDIO to fully fund the ERIS FTV program so as to maintain the current development and flight test milestones." What would this amendment, this funding cut do to this hedge? A cut to 4.1 billion already imposes a one-year delay in the flight test. A cut to 3.7 billion could impose up to a 2 year delay, and would require SDIO to renegotiate the existing ERIS contract, probably imposing greater overall costs for development. A cut to 3.5 billion would seriously effect the technology base of this system. Does the Senate really want to eliminate the only program that gives us a rapid response capability to Soviet break-out at a time when the Soviet Union is forging ahead with its own strategic defense preparations?

3. Quote: "Third, the administration has continued to place primary emphasis within the SDI program on comprehensive, virtually 'leak-proof' strategic defenses. . . . The Committee believes that . . . the major emphasis within the SDI program should be dedicated to developing survivable and cost effective defensive options for enhancing the survivability of U.S. retaliatory forces and command, control and communication systems." Well we seem to be talking to ourselves, Mr. President. Senator Johnston laments that the SDI program is no longer focusing on long-term, high pay-off technologies, while the Armed Services Committee is concerned about the overemphasis of such technologies. Well, the truth of the matter is that the SDI program has been substantially restructured to provide a

greater balance between near-term options and long-term ones. The Armed Services Committee is right. And the SDIO has acknowledged that they are right, and has moved forward six key technologies that are more mature than the other SDI work. That long-term research continues, to be sure. These six technologies make up the Phase I architecture of the Strategic Defense System that has passed through Milestone 1 of the Defense Acquisition Board. This system is perfectly configured to provide defenses for our retaliatory forces, and selective attacks on our command, control and communication systems. It is precisely the kind of system we need if we are to deploy defenses one day to accomplish those missions listed by the Armed Services Committee as the high priority.

What would this amendment do to this Phase I architecture? It would delay or destroy the basis for making an informed decision to move to full-scale engineering development for years. Each system, the Boost-Phase Surveillance and Tracking system, which all persons agree we need with or without SDI, the Space-based Interceptor, the ERIS interceptor, the Mid-course Tracking system, and all the other elements that make up this first-phase architecture will be hurt severely.

4. Quote: "Fourth, the committee also supports a robust SDI research program for the leverage it provides to our negotiators in Geneva." While the Committee notes that full-funding is not required, and I disagree with this statement, they go on to say that, "It is the committee's belief that leverage for arms control negotiations comes only from real defense programs which are aimed at realistic objectives, adequately funded, and broadly supported..." But now that the program is focusing increasingly on realistic objectives, now that it is becoming a real defense program, having passed its first milestone, moving toward an FSED decision in 1992, we are cutting the legs out from under the program.

SPACE-BASED INTERCEPTOR

A major project required to validate the technology for tracking and destroying nuclear missiles in their boost, post-boost and possibly midcourse phases of flight:

BUDGET IMPACTS

4.1B.—Maintain schedule with single flight test and option for second test;
3.7B.—Delay flight test 6 months to 1 year;

3.5B.—In addition to above, reduce technology base (E.G., guidance and propulsion subsystems) needed to improve performance and reduce weight.

BOOST SURVEILLANCE AND TRACKING SYSTEM

A key project to validate advanced technology for detecting and tracking missiles as they are launched:

BUDGET IMPACTS

4.1B.—Delay flight test 1 year;
3.7B.—Maintain 1 year slip, but with no backup technology (E.G., Focal Planes);
3.5B.—Technology validation test delayed 2 years; technology base to meet potential involving threats at high risk (e.g., focal plane arrays; cryocoolers).

TERMINAL DEFENSE OPTION

Ground based high endoatmospheric interceptor and terminal imaging radar technology validation projects aimed at demonstrating that warheads can be destroyed as they reenter the earth's atmosphere:

BUDGET IMPACTS

4.1B.—Interceptor and radar tests delayed 1 year;
3.7B.—Interceptor and radar tests delayed 1 to 2 years;
3.5B.—Terminal imaging radar and high endoatmospheric interceptor tests cancelled; TIR and HEDI reduced to technology base program only terminal option eliminated for now.

KEY SUPPORTING TECHNOLOGIES

These projects such as survivability, lethality, power and space transportation are essential to meet the criteria necessary to provide supporting technology for developing and deploying a strategic defense system:

BUDGET IMPACTS

4.1B.—Downselect options such as space power; technology validation for space transportation at high risk;
3.7B.—Transportation and space power reduced to only technology base efforts;
3.5B.—Technology base efforts such as passive and active countermeasures at high risk; booster laser lethality test using miracle device eliminated.

NEUTRAL PARTICLE BEAM

A key project for validating technology required for responsive threat discrimination such as RV versus decoys in midcourse:

BUDGET IMPACTS

4.1B.—Descoped integrated space experiment for validation of accelerator designs;
3.7B.—Cancel bear experiment for near-term test of accelerator in space;
3.5B.—Reduced grounds test accelerator technology efforts.

FREE ELECTRON LASER

A key project for validating technology for boost phase kill of responsive threats:

BUDGET IMPACTS

4.1B.—1-year delay in white sands missile range (WSMR) facility;
3.7B.—2-year delay in WSMR facility; continue laboratory laser device efforts;
3.5B.—2-year delay in WSMR facility; reduced support for laser device selection (high risk).

FOLLOW-ON SYSTEMS

Major projects required to advance and improve technology for successive phases to an initial strategic defense system:

BUDGET IMPACTS

4.1B.—Directed energy laser and neutral particle beam options reduced;
3.7B.—In addition to above, 1-to-2-year delays in remaining technology validation experiments;
3.5B.—Technology base activities (e.g., tracking and pointing and optics) reduced implying even higher risk in delayed experiments.

FISCAL YEAR 1988 BUDGET LEVEL IMPACTS

The program to date has enabled SDIO to present 6 elements for an initial defense system to the defense acquisition board.

Funding levels in the past have been low but progress has been made.

We remain confident that those 6 elements can be used cost effectively in an initial defense with the promise of follow-on phases that enhance the initial capability.

This cannot be accomplished at the same speed and with the same level of confidence as before with the funding levels presently being debated in Congress.

The impact of some of these budgets are as follows:

[Fiscal year budget levels]

IMPACTS

4.1.—Up to a 1-year program delay;
Key projects in theater missile defense, directed energy, battle management, survivability, and lethality reduced and delayed.

3.7.—Work on mature technology candidates for an initial system slipped between 1 and 2 years;

Studies on future technologies necessary for follow-on systems to meet responsive threats, delayed and substantially reduced;

Necessary BM/C3 experiments cancelled or restructured;

Drastically reduce system engineering efforts that examine affordability, producibility, logistics . . . etc;

Survivability and lethality programs further reduced.

IMPACTS

3.5.—Initial system elements severely impacted;

Some technology validation experiments are canceled and others delayed as much as 2 years;

Sensors projects with significant benefits outside SDI, delayed 2 years;

Terminal defense radar delayed indefinitely or terminated;

Major reductions in technology base efforts for directed energy projects;

BM/C3 efforts severely restricted; Countermeasures assessments limited.

BATTLE MANAGEMENT COMMAND/CONTROL COMMUNICATIONS

Experiments that are required to validate technology necessary for uniting the sensing and weapons elements into a viable strategic defense system:

BUDGET IMPACTS

4.1B.—Reduce scope and delay cooperative space system experiment 1 year;

3.7B.—Further downselect among experiments and continue some efforts such as secure processing only as technology base research; national test bed remote site links delayed;

3.5B.—Technology validation and technology base efforts (e.g., fault tolerant operating system) at very high risk; national test bed initial simulations reduced in scope.

EXOATMOSPHERIC REENTRY INTERCEPTOR SYSTEM

In conjunction with the midcourse sensor project, a prime project for validating technology needed for tracking and destroying missiles in the midcourse phase of flight:

BUDGET IMPACTS

4.1B.—Flight tests delayed 1 year;
3.7B.—Tests delayed 1 to 2 years; renegotiate contract;

3.5B.—Technology base reduced (miniature kill vehicles; advanced propellants; guidance and control).

MIDCOURSE SENSOR

An essential project designed to validate technology for acquiring and tracking, nuclear warheads in ballistic flight and discriminating them from decoys and debris:

BUDGET IMPACTS

4.1B.—Flight demonstration delayed up to 1 year;

3.7B.—Flight demonstration further delayed or technology validation limited to ground tests only;

3.5B.—In addition to above, technology base reduced (optical and radar discrimination, signal processing) resulting in high risk for planned improvements.

The PRESIDING OFFICER. Who yields time?

Mr. BUMPERS. Mr. President, I wonder if the distinguished floor manager will yield me 10 minutes.

Mr. JOHNSTON. Mr. President, I yield 10 minutes to the distinguished Senator from Arkansas.

The PRESIDING OFFICER. The Senator from Arkansas is recognized for 10 minutes.

Mr. BUMPERS. Mr. President, if we were to find the kind of waste and poor performance of the magnitude we've seen in Star Wars in the Food Stamp Program, or the Welfare Program, or even in a health care program, I promise you this administration, and other champions of SDI, would be up in arms. But because this has been held out as some kind of a panacea for the whole nuclear arms problem, we proceed in lockstep to just throw money at it year after year. Yet even in this country, even in this country, the President, General Abrahamson, maybe Secretary Weinberger and retired Gen. Danny Graham are about the only people I know who still even talk seriously about this thing being an ultimate defense.

Who are we going to listen to when it comes to whether or not this thing will work or not? Here is the Washington Post, July 9, 1987:

Senior Pentagon officials, seeking internal approval for a tentative plan to deploy ballistic missile defense in the mid-1990s, pressured an advisory panel to omit sharp criticism of the plan in a recent key scientific report, military and congressional sources said yesterday.

A recent report by a Defense Science Board panel concluded that the Pentagon's Strategic Defense Initiative (SDI) deployment plan endorsed by Secretary of Defense Caspar W. Weinberger was so "sketchy" that neither its price nor its effectiveness could be determined.

So, what happened? That criticism was omitted from the report that was given to the Defense Acquisition Board. The administration is not about to broach any scientific analysis of this program.

Look at what the American Physical Society said. Look at what Harold Brown said. Look at what James Schlesinger said. Look at what the Vice President, GEORGE BUSH, said. He wants to separate himself in this campaign and not fall prey to the Hubert Humphrey-Lyndon Johnson syndrome of 1968. He will be saying more of these things to separate himself from this President.

Here is what he said to a Newsweek interviewer:

You've got our hawks who say superiority is the answer. Not possible. Never going to happen. You've got others who say we will make nuclear weapons obsolete by substituting SDI for deterrence. I don't say it's not possible, but it's not until the next century, far into the next century. What must be avoided . . . is the broad, general statement

that what we are searching for is a way to make nuclear war obsolete. I wish it were possible, but it is not going to happen.

Mr. President, what is the justification for the massive 30-percent increase in star wars funding? It would be laughable for the President to come here and ask for almost \$6 billion unless he believed and we believed that this thing was going to work.

Incidentally, the Pentagon is now working on a program to make our reentry vehicles that we would shoot toward the Soviet Union maneuverable in order to avoid their antiballistic missile systems. If we believe that we can make our reentry vehicles maneuverable and thereby avoid a similar system in the Soviet Union—why cannot the Soviet Union do it?

Here is another quotation, from the New York Times of May 4, 1987, on this whole idea of developing something in the mid-1990's, kinetic kill vehicles:

Among the Government officials who found fault with the plan for kinetic weapons in space 5 years ago was Defense Secretary Caspar W. Weinberger.

He now supports it, but 5 years ago he thought it was a cockamammy idea.

General Dougherty, former head of the Air Force's Strategic Air Command, sees SDI as a valuable complement to traditional deterrent forces but warns that SDI offers:

Only a partial, albeit useful, defense against the most threatening of today's weapons . . . The idea we're going to be able to develop a defense that makes us invulnerable to nuclear war or the ravages of war is a pipedream.

General Chain, present commander of SAC:

As a result, General Chain predicted that unless mutual "caps" can be negotiated, "the day we end up with an SDI system on both sides" the U.S. will have to up its strategic bomber force to between 1,000 and 2,000 aircraft with a corresponding increase in advanced cruise missile. "If the Soviets build an SDI, that means that SAC will have to have a larger bomber force with greater standoff capability because the bomber will have to be the penetrator."

So we'll spend over a trillion for SDI, another half trillion to trillion for more bombers, all to get right back to where we are today.

Admiral Crowe, Chairman of the Joint Chiefs of Staff at this moment, appointed by Ronald Reagan:

My own view is that SDI right now is a research program. I hear so much said and written that it's out there in the parking lot and we don't know where to put it.

I would like to go on with all those quotations, but look at what the National Academy of Sciences said in a poll. By 20 to 1, the top scientists in America said this is absolutely an absurdity, to lead the American people to believe that it will be survivable or cost effective or either. By a margin of 36 to 1, they said it will not work.

We have the President, who is a former actor, stacked up against all of America's scientists saying, by a vote of 36 to 1, that it will not work. If the President were telling how to make movies and the National Academy of Sciences were saying by 36 to 1 that he is wrong, I might give his opinion some credence.

By a vote of 11 to 1, the National Academy of Sciences says that the research does not even begin to warrant the kind of funding increase of \$5.8 billion the President is asking for.

Mr. President, I am sorry that I only have 5 minutes. Do you want me to tell you something? There are 2 million people in this country who test positive for AIDS, and every one of them is going to get it, and every one is going to die.

I do not know how much we are putting in AIDS research, but it does not make any difference. I can tell you that if we do not address that plague, which is coming, inexorably, irresistably, we will be a third-rate nation, no matter how many SDI's we have deployed. It is going to take the best minds in the country, and that is not to suggest that the best minds in the country are in the gay community, either.

There is not anybody in this body who stops and reflects on what we are facing with that disease. Look at some of the more thoughtful reports about where we are going with AIDS, and now increasing numbers of scientists say there will never be a vaccine against it. It is a moving target, like influenza. You get something for Asian flu, and Asian flu is not the disease next year; it has mutated into something else. Here we are—the President asking for almost \$6 billion for a defense system that the National Academy of Sciences says has no chance of working.

The PRESIDING OFFICER (Mr. RIEGLE). The Senator's time has expired.

Mr. BUMPERS. I ask for 1 additional minute.

The PRESIDING OFFICER. The Senator is recognized for an additional minute.

Mr. BUMPERS. Mr. President, the Soviet Union may be dumb, but they ain't stupid. When the President talks on one hand about getting an agreement with them about reducing the number of warheads on one side, just for openers, they do not have to believe SDI is workable. They do not have to believe that they are really threatened by the technology of SDI. But I can tell you one thing: They would be crazy to agree to reduce their defense weapons 50 percent while we deploy it.

Even in a society as closed as the Soviet Union is, even in a society as closed as all of Eastern Europe is, I

can tell you that politically they could not survive it, any more than we could. So they simply are not going to cut. They are not going to agree to an agreement as long as the President hangs by this idea that, somehow or other, this is going to save us, when he is about the only person left in America saying it. I urge the adoption of this amendment.

The PRESIDING OFFICER. The time of the Senator has expired.

Mr. EXON. Mr. President, I yield 4 minutes to the Senator from South Carolina.

Mr. HOLLINGS. I thank the Senator from Nebraska, the manager of the bill.

Mr. President, right to the point made by the distinguished Senator from Arkansas, about how many people believe in SDI. You cannot listen to that litany because it's the wrong prayer. The SDI Program has been a struggle, step by step, yard by yard, to play catchup ball with a program that the Soviet scientists not only believe in but have developed to a remarkable extent.

Mr. President, I ask unanimous consent at this particular point that we do print in the RECORD in its entirety an article by William J. Broad, the science reporter from the New York Times.

There being no objection, the article was ordered to be printed in the RECORD, as follows:

THE SECRETS OF SOVIET STAR WARS
(By William J. Broad)

For more than a year, the wizards of reconnaissance in the United States Government have been obsessed by the mystery of Dushanbe. As they peer into the Soviet Union with their spy satellites, what grips them is not the capital of the Tadzhik Republic itself, but an isolated site south of the city, not far from the Afghan border. There, under construction high atop the region's tallest mountain, is an elaborate complex, bristling with roads, buildings, laboratories and domes, and linked by heavy power cables to the nearby Nurek hydroelectric plant, one of the largest in the Soviet Union.

According to United States intelligence experts—who spoke to this reporter only after great hesitation and demands for anonymity—the domes of Dushanbe will one day house lasers that will flash their concentrated beams of light effortlessly through the thin mountain air into the depths of space. The question that divides the experts is how powerful the lasers will be—and, thus, their ultimate purpose when the complex becomes operational, probably near the end of this decade.

A relatively weak laser, used like a radar beam, could track man-made objects moving above the earth. A stronger laser could damage American communication satellites and "blind" those designed to flash an early warning of a nuclear attack. A very strong laser could destroy warheads and missiles. During a war between the superpowers, the Soviet Union might bounce its laser beams off mirrors orbiting in space and toward American intercontinental missiles, destroying the missiles in flight and thus "mopping

up" the ragged retaliation that could be expected after a pre-emptive Soviet strike.

No American official has publicly acknowledged the existence of the Dushanbe complex. But Secretary of Defense Caspar W. Weinberger recently has warned of powerful new Soviet lasers on the horizon. "We expect them to test ground-based lasers for defense against ballistic missiles in the next three years," he said in a major speech last January, concluding darkly, "I cannot envision any circumstance more threatening and dangerous for the free world than one in which our populations and military forces remain vulnerable to Soviet nuclear missiles while their population and military assets are immune to our retaliatory forces."

For years, highly placed American officials have hinted ominously about the size and scope of the Soviet antimissile effort, claiming that—as Secretary Weinberger has put it—the Russians are ahead of the Americans "in many important aspects," and making dire predictions about the consequences of Soviet beam weapons for the West.

And for years, with equal vigor, Soviet officials have dismissed such charges. "The U.S.S.R. does not work in this area," a group of senior Soviet scientists flatly asserted in "Weaponry in Space: The Dilemma of Security," a recent book critical of the United States' Strategic Defense Initiative, which is more commonly known as Star Wars.

The public war of words over the Soviet Union's antimissile program tends to generate more heat than light. But a four-month study drawing on Government reports, private studies and scores of interviews with American scientists, intelligence experts, White House officials and civilian sleuths—as well as Russian émigrés, defectors and an exclusive exchange with a senior Soviet official—has brought into focus an extensive Russian effort to develop laser and particle-beam weapons.

The Soviet effort, like the American one, focuses on "directed energy" weapons—beams of concentrated laser light, and streams of subatomic particles—that would destroy missiles and warheads in flight; space-based sensors, which would track the targets, and powerful computers, which would direct the battle.

The Soviet program is larger than the Administration's antimissile effort, and in some ways more scientifically creative. Nonetheless, it has achieved only a rough parity in developing laser and other exotic weapons, and a poor second in building the key devices, such as computers and sensors, that would coordinate an antimissile system. But whether or not the Soviet system could actually threaten incoming American missiles themselves anytime soon, it might achieve the much easier task of disrupting and crippling the satellites and sensors on which an American antimissile system would depend.

The judgment of how great a menace the program actually poses depends on who is viewing it, with perceptions often colored—even within the Government itself—by political leanings, institutional loyalties and varying familiarity with different aspects of the Soviet program. But a clear perception of that menace is essential to resolve the momentous conflict between those who want to forge ahead and deploy Star Wars as soon as possible—which would be the most expensive military program in history—and those who favor negotiating an arms-control agreement that would slow the race for antimissile weapons.

The most striking fact about the Soviet Star Wars program is its age and consistency. As Anatoly Fedoseyev, a winner of the Lenin Prize and the Hero of Socialist Labor Award for his designs of antimissile radars before he fled the Soviet Union in 1971, observed: "Since the beginning of Soviet S.D.I., about 35 years ago, this project has never been interrupted or delayed. And I'm sure it never will be."

Defectors like Fedoseyev, as well as secret agents and sophisticated spy satellites, provide the United States Government with essential insights into the Soviet program. This information is then analyzed in sober, lengthy, detailed—and normally top secret—reports, from which the Government makes public only sketchy details.

The most familiar conduit by which these details reach the public is "Soviet Military Power," a book published annually by the Defense Department that takes a consistently hard line on the Soviet military threat. In its 1987 edition, the book estimates that on their effort to develop lasers alone, the Russians spend \$1 billion a year and employ 10,000 scientists and engineers working at more than a half-dozen major research and testing facilities.

American scientists working on the Strategic Defense Initiative program say Soviet theorists are unmatched in the world, producing brilliant papers in areas of basic science relevant to antimissile weapons. George Chapline, a physicist at the Lawrence Livermore National Laboratory in California, noted that the Russians pioneered the theory of X-ray lasers whose short wave length makes the beam more penetrating, and thus more damaging, than ordinary lasers: "The Soviets were the world leader, both in good ideas and the quality of their calculations," he said.

As far back as the 1960's, at a sprawling antimissile research center near the town of Sary-Shagan, in the wilds of Kazakhstan, Soviet scientists started tinkering with the laser—a discovery for which, in 1964, three scientists (two Russians and one American) were awarded the Nobel Prize. As early as 1965, an article in an unclassified Soviet military journal suggested lasers might solve "the problem of destroying intercontinental missiles."

Today at Sary-Shagan, according to "Soviet Military Power," the Soviet Union is testing several large lasers meant to destroy planes, satellites and missiles. The Russians already have "some capability to attack" satellites with ground-based lasers and could put in orbit a "prototype" laser weapon to fire at satellites by the end of the decade, it says. According to the Pentagon, during the 1990's the Russians will also be able to loft particle-beam and kinetic weapons (which destroy their targets by smashing them with hardened projectiles moving at high speeds).

The Soviet effort to create futuristic antimissile arms is complemented by their intensive, and longstanding, work on more-conventional defensive weapons. The Soviet Union currently maintains a functioning antisatellite system and an antimissile network that rings Moscow, both centered around ground-based rocket interceptors. It also boasts a vast arsenal of anti-aircraft guns, missiles and jet interceptors designed to shoot down enemy bombers and cruise missiles (but that failed to stop a 19-year-old West German pilot in a small plane who flew unimpeded into Moscow's Red Square last month).

William R. Graham, President Reagan's science adviser, noted that the Russians are currently upgrading their antimissile system. "That means that simultaneously they have ground-based defenses being designed, developed, tested, fabricated, deployed and operated," he said "That's an enormous technical capacity that feeds back information to them constantly. They test and improve. We don't have that capability in this country."

The Russians also possess a key prerequisite for deployment of space-based antimissile sensors and weapons—a vigorous space program. Last year, the Soviet Union successfully launched 91 rockets, while the United States, crippled by the Challenger disaster and the misfiring of several other rockets, launched only six. In May, the Russians began test flights of a giant new rocket, dubbed Energia, which can lift payloads about four times heavier than those of the American space shuttles.

The Central Intelligence Agency, which often presents a less grim picture of Soviet military programs than the Pentagon, judges that in the race to develop exotic antimissile arms, despite Moscow's larger program, East and West are in a dead heat. In 1985, a 17-page C.I.A. analysis found that "the Soviets are in a comparable, or highly competitive position with respect to the United States" in the development of directed-energy technologies. In laser research, the C.I.A. found an "essential equivalence." In particle beams, the C.I.A. found that the Russians "may have the edge over the U.S. in some important areas."

Private analysts who are critical of the Strategic Defense Initiative program go further. They contend that many of the Administration's estimates of the extent of Soviet Star Wars achievements—and particularly estimates made by the Pentagon—are simply exaggerations that are intended to bolster its own aims during budget battles with Congress.

"The Soviets are five years behind us on lasers, five to 10 on sensors, and at least a decade on computerized battle management," said John E. Pike, head of space policy for the Federation of American Scientists, a private Washington group. "We're sitting here with something like 140 installed supercomputers. And they've got one that's considered to be at the very low end of the spectrum."

A common error in assessing the Star Wars balance, Pike added, is to assume that Soviet scientists are as productive as their Western counterparts. Not so, he said. Soviet researchers spend hours each day waiting in lines for laboratory supplies, personally fashioning hard-to-get equipment, and satisfying rigid bureaucratic demands. "The input into the Soviet Star Wars program might be bigger," he said, "but the output certainly isn't."

Other private analysts counter that Soviet researchers, if less productive, at least have stable, long-term goals. "The faddism over here is dangerous," said Stephen M. Meyer of the Massachusetts Institute of Technology, an expert on Soviet defense and arms control. "We have this boom-bust cycle, which is an absolute waste. Meanwhile, they've got this long tradition of steady work."

Some experts point out that the Russians' steady application has yielded significant, if not brilliant, achievement. "Since the beginning, they've been behind in technology, and yet they were first to push man into space and surprised all Western observers

by producing an A-bomb," said Valentin Turchin, a computer scientist who left the Soviet Union in 1977 and now teaches at the City College of New York. "An old Ford and a contemporary car are incomparable; still, that old car is not a horse—you can take a platoon of soldiers and achieve a military goal. Using their backward technology, [the Russians have] created a war machine that keeps the whole world in fear."

Civilian scholars who study the Soviet antimissile enterprise tend to see it as far less threatening than do Pentagon officials, former Russian scientists or C.I.A. analysts. Lacking access to spy satellites, these high-technology sleuths comb thousands of Soviet books, documents and scientific papers. Though discovering no great secrets about weapon systems, the scholars gain something as important—a detailed understanding of how efficiently scientific ideas are turned into the exotic technologies that form the basis of the Soviet Star Wars program.

"They have a lot of good ideas, and can develop brute-force prototypes, but getting beyond that is hard," said Nikita Wells, a physicist with the Rand Corporation who has conducted several unclassified studies of Soviet particle-beam technology for the Pentagon. "They don't have the computers or materials. It's primitive. It's a rich country from the standpoint of basic science and natural resources. But whatever they do that's good, the system kills it one way or another."

An example of stymied innovation is the Radio Frequency Quadrupole, known as R.F.Q., a remarkably compact device for accelerating subatomic particles, making it ideal for use in light-weight, space-based beam weapons. Russian scientists at the Soviet Institute of High-Energy Physics at Serpukhov, a sprawling science center south of Moscow, set amid thick stands of pine and birch, invented the R.F.Q. during the early 1970's. Scientists there announced the discovery in the "open literature," describing its characteristics in technical publications read around the world. "The Soviets did the first work," said Wells, pointing out that the Russians are now behind in R.F.Q. research.

In 1978, scientists at the Los Alamos National Laboratory, in New Mexico, the birthplace of the atomic bomb, picked up the Russian idea and developed its potential. Today, the technology of the R.F.Q. is essential to the particle-beam weapons that Los Alamos scientists plan to test in space during the 1990's.

Simon Kassel, a senior scientist with the Rand Corporation and author of a study on Soviet Star Wars, said the West in general had an edge because of its economic strength and technical skills. "It's one thing to do basic research and have a lot of different concepts going, and another to translate it into weapons," Kassel said. "[The Russians'] technology base is not as rich as ours. Their machines are crude and their society closed. They are an extremely talented people, with enormous imagination. And yet the system prohibits the full fruition of talent."

Kassel said a crash Soviet program aimed at closing a key technology gap centered on computers, which are essential to all phases of Star Wars, including the design, development, testing, deployment and coordination of arms for antimissile war. The program is headed by Yevgeny P. Velikhov, vice president of the Soviet Academy of Sciences and a leading figure in Russian Star Wars development.

The Soviet lag in key technologies has made Moscow extremely apprehensive about competing with the West to deploy Star Wars systems, experts say. "Given the increasing demands on Soviet resources, not only from the economy at large but also the defense sector, the Strategic Defense Initiative threatens a new round of technological competition that the Soviets almost certainly would prefer to forgo," wrote Benjamin S. Lambeth, a senior analyst with the Rand Corporation, in "The Soviet Union and the Strategic Defense Initiative," a 55-page study of Soviet antimissile technology he undertook for the Air Force. "Moscow's discomfiture . . . seems genuinely rooted in an appreciation of the Soviet Union's own resource and technology limitations."

The United States, after appropriating some \$10 billion to date for a crash program of antimissile research, is moving vigorously ahead in many areas of the Star Wars race. The critical question is what to do with this leverage, especially with respect to the Anti-Ballistic Missile Treaty, signed in 1972 in an attempt to limit antimissile systems. The Administration's aim is to go beyond the treaty and deploy a Star Wars system as soon as possible. Caspar Weinberger, in a speech last January, said "we must seize this opportunity" to deploy arms in space because the chance to stay ahead of the Russians "will not remain with us forever." In the proposed system's first phase, envisioned for the mid-1990's, the Pentagon would deploy battle stations in space armed with small homing rockets—the most mature of the antimissile technologies now under development. In theory, these rockets would intercept Soviet missiles as they rose over Central Asia.

The alternative is for the United States to sign an arms accord that would combine cuts in the nuclear arsenals of both superpowers with an agreement to forgo intensive development of antimissile weapons for a specified period, perhaps 10 years.

Moreover, a new treaty, by slowing the arms race, would allow the Russians time to modernize their industries and economy, paving the way for better antimissile work. "They're playing for time," said Kassel, of the Rand Corporation. "So far, the technological lag has been tolerable for them because it was confined to traditional technologies that they have mastered. In the new ones, such as computers, their situation is very bad. . . . An all-out race is something they dread. It would put an enormous strain on us. You can imagine what it would do to them."

A key question is whether the West, having signed a treaty limiting antimissile-weapons deployment, would continue to provide funds for research to maintain its technical edge, or whether it would be lulled into passivity on antimissile issues.

"Perhaps the worst outcome of all would be one in which the domestic consensus behind S.D.I. collapsed after enough momentum had gathered to drive the Soviets into vigorous offsetting measures," said Benjamin Lambeth, of the Rand Corporation. Such measures, he said, might include further development and deployment of antimissile arms and an increase in offensive nuclear warheads.

Although a new treaty would pose risks, the alternative, Star Wars deployment, is also fraught with problems, experts say. Current Soviet weapons, though perhaps too crude to prove effective against American missiles, might still be good enough to knock out American Star Wars systems in

space. Antimissile sensors and battle stations, which are laden with delicate lenses and communication systems, as a rule are easier to disrupt and destroy than nuclear warheads, which are self-contained and "hardened" to withstand a variety of attacks.

Indeed, the mountain-top laser facility near Dushanbe might pose a serious threat to the low-orbit battle stations the Administration wants to place in space. "The electric power going into the facility suggests it may be a pretty powerful laser," said John Pike, of the Federation of American Scientists.

In an unusual departure, a senior Soviet science official recently agreed that large lasers could threaten space-based antimissile arms.

"At present, we have a kind of . . . basic research in lasers, just to keep our hands in such things," said Roald Z. Sagdeyev, director of the Space Research Institute of the Soviet Academy of Sciences, during a recent visit to the United States. "But if there were a final decision in this country to go along with S.D.I., I suspect some of these technologies would be very helpful of countermeasures."

At an arms-control conference in Hamburg, West Germany, last year, Sagdeyev made an oblique reference to the Dushanbe site, noting that "some installations" that might have "rather volatile lasers" had become a topic of discussion in the arms-control community. These, he assured his audience, were not weapons but new lasers for tracking satellites.

"At a minimum, Sagdeyev's explanation is not obviously wrong," said Pike. The most charitable view is that it could be used for picture-taking of satellites at high altitudes and shooting them up—destroying them—at low altitudes. The ultimate purpose of the Dushanbe site may remain a mystery for some time, because the facility is not expected to be finished until the end of this decade.

Nonetheless, the threat of Soviet lasers and particle beams could put into question the feasibility of the Administration's proposed antimissile weapons system, experts say. The so-called "Nitzze criteria," named after Paul H. Nitze, the Reagan Administration's top arms-control adviser, hold that any Star Wars system must be survivable against enemy attack and "cost effective at the margin," meaning it should be cheaper for the United States to add a unit of defense than for the Soviet Union to add a comparably effective unit of offense.

Mr. HOLLINGS. The question is not whether we worry that President Reagan thinks it will work or Caspar Weinberger thinks it will work or the Senator from South Carolina thinks it will work. The Soviets think it works and we do not have the luxury of dallying any longer in developing the capability to defend ourselves.

What the Johnston amendment really does is guarantee research forever. We will not find out whether missile defense is feasible if you cannot test SDI technology and with these delays caused by the reductions.

Mr. President, the Department of Defense has approved six major research programs that are prime candidates for Phase 1 of a SDI system deployment. These programs will undergo extensive demonstration and valida-

tion testing prior to any decision being made about deployment. But, it is essential that this R&D be conducted so that the feasibility of these programs and their components can be determined by thorough analysis, experimentation, and simulation.

The amendment to reduce funding of SDI to \$3.7 billion—\$3.2 billion for DOD SDI R&D efforts—will seriously jeopardize the well-conceived plans to test SDI to determine whether it is feasible to have a missile defense for the United States. The Soviet Union has spent billions of dollars for missile defense in preparation for a deployment of a nationwide ballistic missile defense program. Also, it is in violation of the ABM Treaty with both the Krasnoyarsk radar and mobile ABM interceptors.

The Soviet actions—at a minimum—necessitate a proportionate United States response. Instead, we have seen the Senate vote for a unilateral conversion under the ABM Treaty for adherence to provisions never agreed to by the Soviet Union. As a next step, the Senate is now being asked to significantly curtail the United States missile defense technologies that will directly help us compete with the Soviets.

It is no wonder the Soviets have agreed to proceed—if press reports are accurate—on strategic arms talks with us even though no concessions have been made by the President on SDI as sought by the Soviets. The Soviets know the Congress can force the same result from the administration the Soviets seek in negotiations. And the Soviets will have to concede nothing.

This amendment is wrong, and it should be defeated as it was last year. Arms negotiations should take place at the bargaining table—not on the Senate floor. The bill before us should seek to enhance the U.S. defense position—and not include provisions to weaken it.

We need to go forward with the test and validation program recommended by the DOD. Mr. President, I ask unanimous consent that a listing of the components of the Phase 1 deployment proposal and the impact on them by this amendment be printed in the RECORD.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

PHASE I SYSTEMS

System name	Functions
Boost surveillance and tracking system [BSTS].	Detection of launches. Acquisition and tracking of boost vehicles (BV's) and post boost vehicles (PBV's).
Space-based surveillance and tracking system [SSTS].	Acquire and track post boost vehicles, reentry vehicles, and ASAT's Discrimination.
Ground-based surveillance and tracking systems [GSTS].	Acquisition, Tracking, Discrimination.

PHASE I SYSTEMS—Continued

System name	Functions
Space-based interceptor [SBI].	Disabling of boosters, PBV's, RV, and ASAT's. Sensors on carrier vehicle [CV] could provide enhanced mid-course sensor capability.
Exoatmospheric reentry vehicle interceptor system [ERIS].	Disabling of RV's in late midcourse.
Battle management/command, control and communication system [BM/C ³].	Man-in-loop control. Engagement management. Maintaining track data. Target assignment. Communications.

IMPACT OF PROPOSED REDUCTIONS ON PHASE I SYSTEMS

1. Senate Armed Services Committee—\$5.2 billion reduced to \$4.1 billion for SDI R&D efforts in the DOD.

Boost Surveillance and Tracking System (BSTS) tests delayed from 1990 to 1991.

Space-based Interceptor (SBI) test program cut from 2 tests to 1 test.

Space-based Surveillance and Tracking System (SSTS) and Ground-based Surveillance and Tracking System (GSTS) test delayed from 1992 to 1993.

Exoatmospheric Re-entry Vehicle Interceptor System (ERIS) tests delayed from 1989 to 1990.

Battle Management/Command, Control, and Communications (BM/C³) System tests delayed from 1989 to 1990 and scope of program reduced.

2. Johnston et al amendment—\$5.2 billion reduced to \$3.2 billion for SDI R&D efforts in the DOD.

BSTS tests delayed from 1990 to 1992 and reduces engineering analysis of evolving Soviet threat.

SBI tests delayed from 1990 to 1991; provides for only one test instead of two; cuts back on performance gains through increased technology efforts.

SSTS/GSTS tests delayed from 1992 to 1993 plus cut backs in planned improvements.

ERIS tests delayed from 1989 to 1991; contract cost will increase; technology base considerably reduced.

BM/C³ tests delayed from 1989 to 1990/1991 and big curtailment on overall effort.

IMPACT OF SDI BUDGET CUTS

The SDI budget request supports a balanced research effort: a balance between technology base research and validation experiments, between ground and space based systems, and between mature and advanced technologies.

In the past, budget reductions were implemented by eliminating competing technology approaches and delaying certain efforts. While these steps increased the risk to program success, the overall objectives were not substantially degraded.

The options for implementing substantial FY 1988 budget reductions, while maintaining a strong technology research program, are limited to: reduce integrated experiments and/or shift from the balance between mature and advanced technology. Either of these steps would have severe impact on determining the feasibility of strategic defenses and would result in a delay in the time when a defensive system could be operational. The following actions would be necessary to implement budget reductions in FY 1988.

\$4.5B. Sufficient funds would be available to continue a balanced approach to both mature and advanced technologies. However, an informed decision on the feasibility of strategic defenses date would be delayed

about two years because of delayed integrated experiments. Specifically:

Delay key satellite sensors experiments.
Terminate significant portions of endoatmospheric missile tests (HEDI) and all theater defense programs except one.

Restructure two major directed energy programs to ground based technology only.
Space power program (SP-100) delayed two years.

4.0B. A strong technology program is still possible. Funds would not be sufficient to continue essential Treaty compliant integrated experiments in both space based and ground based components. Specific changes:

Space Surveillance Satellite delayed one year; Airborne sensor restructured to a ground simulation; Experiment for terminal phase radar terminated.

Totally terminates endoatmospheric missile tests and theater defense programs.

Ground-based Free Electron Laser delayed 1-3 years.

3.5B. The technology base program would be reduced to addressing critical system and technical issues only. All initiated technology integration experiments would be delayed for two years. The time in which a first phase defense could be operational would slip a minimum of 2-3 years. Specific impacts:

Reduce Boost Surveillance Satellite and Airborne Sensor to ground-only experiment.

Cancel Space Surveillance Satellite and terminal phase radar experiments.

Delay Kinetic Kill Vehicle flights to FY 1991. Delay exoatmospheric missile testing (ERIS) flight to FY 1990. In addition to cancelling phase II of endoatmospheric missile, even initial research would be significantly slowed.

Delay Ground-based Free Electron Laser 1-3 years.

Cancel all Survivability and Lethality system development efforts.

3.0B. Under this funding level, it will be necessary to cancel virtually all major Technology Integration Experiments which have been initiated. The time in which a first phase defense could be operational would slip by more than 3 years. Significant detrimental impact on the program.

Further reduce Boost Surveillance Satellite and Airborne Sensor technology efforts.

Cancel Space Surveillance Satellite and terminal phase radar programs, further reduce the probability of their reinitiation at a later date.

Delay Kinetic Kill Vehicle flights beyond planned date in FY 1991.

Cancel all Survivability and Lethality system development efforts.

Funding at \$3.0 billion or below is tantamount to "research forever" without receiving an answer on feasibility.

Mr. HOLLINGS. Funding at the \$3 billion or below level—\$3.2 billion for SDI and in the DOD under the Johnston amendment—is tantamount to research forever without ever receiving an answer on the feasibility.

Mr. JOHNSTON addressed the Chair.

Mr. HOLLINGS. I am not going to yield. I have been playing this game long enough. I apologize to the body, but I have been marking up a bill as chairman of the State, Justice, Commerce Subcommittee on Appropriations, and we are limited just to a few minutes and that is an unfortunate thing and the debate on this amend-

ment suffers from it. I do not mean to cut off anyone. I love debate. But I need the time to talk on the drastic effects of this amendment. We must not get the idea that when we approve the \$4.5 billion, for SDI, in the Defense Authorization bill that we can deploy SDI.

We have 4 to 5 more years' work before the distinguished Presiding Officer and I are afforded the luxury of voting yes or no on SDI deployment. It could well be that this particular Senator will oppose it. However, I see many signs of promise that we are making tremendous progress in our research. We are ahead of some of the schedules. And there are briefings. General Abrahamson will give them to you. We tried to hold them before the Defense Appropriations Subcommittee but Senators did not attend. And then some come to the floor and complain that they cannot find out. There is nothing sinister about General Abrahamson. SDI is well-conceived, and it will be tested, dated and critiqued, we are on course to determine the feasibility.

If you go support the Johnston amendment, you are not going to be given the chance to make the decision on deployment. SDI opponents will have set in place a change in the treaty on the floor of the Senate and also unilaterally allowed only research, but never a test on anything. You cut off all the programs and then we are so far behind that there is very little can be done to defend ourselves.

I strongly resist this amendment and we will talk at length again sometime later.

Mr. President, I ask unanimous consent that the article be printed in the RECORD regarding the Soviet deployments of ABM systems and how they may breach even the new ABM Treaty enacted last week in the body.

There being no objection, the article was ordered to be printed in the RECORD, as follows:

[From the Washington Times, July 31, 1987].

NEW SOVIET DEPLOYMENTS MAY BREACH ABM TREATY

(By Bill Gertz)

Recent U.S. intelligence reports have identified Soviet deployments of new interceptor missiles and mobile radars that may violate the antiballistic missile treaty, according to U.S. officials.

Officials familiar with the reports said the new deployments in western Russia were spotted under heavy concealment near three large tracking radars near the Baltic coast.

The proximity of the new ABM components to the tracking radars and their heavy camouflage have led many in the U.S. intelligence community to suspect the systems violate the terms of the 1972 treaty, the officials said.

"This could be the first step in a Soviet breakout of the ABM treaty," said one official, who declined to be named.

The new interceptor missiles may be the first installment of a projected deployment of several thousand anti-missile rockets, the official said.

According to one official, U.S. intelligence monitors—satellites and listening posts—confirmed last month that "several hundred" SA-12B anti-missile rockets, dubbed "Giant" by the Pentagon, have been deployed in the western Soviet Union.

The interceptors were spread out near Muckachevo, Baranovichi and Skrunda, the sites of three large phased-array early-warning radars. The large radars can be used for warning detection, tracking or possibly battle management in connection with an ABM system.

The Pentagon, in its March 1987 edition of Soviet Military Power, said an experimental interceptor, the SA-X-12B, would "soon become operational."

The missile, according to the Pentagon publication, "can intercept aircraft, cruise missiles and tactical ballistic missiles and may have the potential to intercept some types of strategic ballistic missiles."

"This [anti-ICBM] capability is a serious development because this system is expected to be deployed widely throughout the U.S.S.R.," the Pentagon said. "It could, if properly supported, add a measure of point-target defense coverage of a nation-wide ABM deployment."

In addition to the interceptors, U.S. intelligence has discovered that since early this year, "dozens" of mobile anti-missile radar systems—of the type of surrounding Moscow—have been deployed in the western Soviet Union. The Moscow ABM system is permitted under the terms of the ABM pact.

The mobile radars, dubbed "Flat Twin" and "Pawn Shop" by the Pentagon, also are hidden in pairs at various locations in western Russia.

The ABM treaty limits the United States and Soviet Union to one regional anti-ballistic missile system and bans preparations for a nation-wide ABM system.

According to the State Department, a five-year review meeting to discuss compliance problems or to offer amendments to the ABM treaty is scheduled for October 1988, when both sides are expected to discuss new technological developments, such as the U.S. Strategic Defense Initiative.

In March, the Reagan administration charged in a report to Congress that the Soviets had violated the ABM treaty by building a large tracking radar at Krasnoyarsk in Siberia.

The administration has also accused the Soviets of bending the ABM prohibition against developing mobile, land-based ABM components and testing ABM systems together with conventional air defense systems.

Other ambiguous ABM violations listed in the report include charges that the Soviets have developed a rapid ABM reloading capability and that all Soviet ABMs taken together may have violated the treaty ban on ABM defense of the "national territory."

Defense Secretary Caspar Weinberger has warned that the Soviet development of a nationwide ABM system would have "the gravest implications" for the U.S.-Soviet strategic balance.

"Nothing could be more dangerous to the security of the West and global stability than a unilateral Soviet deployment of a nationwide ABM system combined with its massive, offensive missile capability," Mr. Weinberger said in a speech last year.

Recent improvements in the Soviets' Moscow ABM system have also caused concern among U.S. officials that the Soviets may be violating the ABM treaty.

According to one official, the positioning of longer-range ABM "Gazelle" interceptors around Moscow has extended the range of anti-missile coverage outside of Moscow to several large ICBM bases nearby.

Also, the Soviets were suspected of recently testing a laser tracker system from a space station that monitored the flight of a Soviet ICBM test. The test, if confirmed, could have violated ABM prohibitions against such tests.

A secret State Department arms control memorandum, obtained by The Washington Times, found "a continuing and expanding pattern of Soviet concealment activities—camouflage, deception, concealment, and other data-denial or data distorting practices aimed at preventing us from acquiring accurate information about Soviet military programs."

Mr. HOLLINGS. Mr. President, this concludes my remarks and at the appropriate time I will join in moving that the amendment be tabled.

I thank the distinguished Senator from Nebraska for yielding to me.

The PRESIDING OFFICER. Who yields time?

Mr. JOHNSTON. Mr. President, I yield 8 minutes to the distinguished Senator from Iowa.

The PRESIDING OFFICER. The Senator from Iowa is recognized for 8 minutes.

Mr. HARKIN. Mr. President, I thank the Senator from Louisiana for yielding me this 8 minutes.

Mr. President, I am deeply concerned about our seemingly schizophrenic behavior with respect to the SDI: We have disassociated SDI funding decisions from realistic assessments of possible defensive capability. We continue to fund star wars as though it might lead to a perfect or near perfect defense, while study after study shows that we could deploy only a partial defense. A near-perfect defense might provide protection for our cities and our people; a partial defense could only "complicate Soviet attack plans" as part of a nuclear war-fighting strategy, or protect missile silos, not people.

It is time that we reassess what is possible with strategic defense, and adjust our funding levels to match reality. We must first choose worthwhile and feasible goals for any continued star wars research. Then we must allocate our limited resources to achieve those goals. Any additional funds expended on star wars for dangerous or infeasible goals will decrease our national security, diverting resources from legitimate defense needs and sapping scientific and engineering talents from our civilian economy.

Let me say that I would be the first to propose increased funding for SDI if a perfect or near-perfect defensive shield were feasible *** a defense that could literally protect our coun-

try from nuclear attack. But an impenetrable shield is not feasible, given a determined adversary. The leaders of the SDI have acknowledged from the start that such a shield is not possible. General Abrahamson has stated that:

A perfect defense is not a realistic thing and there is no perfect weapons system, there is no panacea.

Gerold Yonas, the initial chief scientist for SDI wrote that:

I know we agreed at the start that there was no perfect defense against a determined adversary, and it is not likely there ever will be.

Recently, we learned that the first phase of the planned SDI defensive system, as proposed to the Defense Acquisition Board, would at best destroy only 10 to 20 percent of Soviet nuclear warheads, using thousands of chemically propelled hit-to-kill rockets fired from hundreds of orbiting battle stations in space. The more advanced directed energy weapons such as lasers or particle beams developed over the next 10 to 20 years might improve these initial token defenses. But, then again, Soviet advances in these same technologies might decrease our defense effectiveness as the Soviet Union gained the capability to shoot down our space based battlestations and sensor satellites.

For the foreseeable future, then, we are debating the merits of a research program that might lead to a 10 to 20 percent effective defense. What are the possible uses for a partial defense?

The SDIO discusses three possible goals for research on a leaky defense in their annual reports to the Congress:

First. To provide a hedge against Soviet breakout from the ABM Treaty.

Second. To induce the Soviets to reduce offensive nuclear forces.

Third. To improve deterrence by complicating Soviet attack plans.

In addition, my distinguished colleagues have added a fourth goal that is disavowed by the administration:

Fourth. To protect our land-based missiles and command and control centers.

I will analyze the merits of each of these goals:

First, the SDI organization emphasizes that this is "just a research program", intended primarily to provide the technical information so that a future President and a future Congress could decide in the early 1990's whether or not to deploy any type of partial defense. This research would also provide a hedge against a possible Soviet breakout of the ABM Treaty: it would provide us with the technical information needed to confuse, overwhelm, penetrate, or destroy components of any future Soviet defensive system.

This research is prudent to the degree that it is needed to counter any

possible Soviet ballistic missile defense activity on a timely basis. If, on the other hand, underground testing of nuclear-pumped directed energy weapons are prohibited by future verifiable test ban treaties, then the United States could safely eliminate research programs to counter such weapons. Research into penetration aids and other countermeasures to assure that our weapons could penetrate realizable Soviet defenses would be appropriate.

The second, oft-stated goal of SDI is to convince the Soviet Union that their ICBM's are becoming worthless in the face of our improving defenses, and that they should, therefore, agree to substantial cuts in these now important—nuclear weapons. This argument for star wars is irrational and without merit. The historical record and the stated position of our own Secretary of Defense support the opposite conclusion: defenses or even the threat of defenses would lead to substantial increases in offensive nuclear weapons:

In the late 1960's, faced with the perceived threat of a nationwide Soviet defensive system, the United States embarked on a program to overwhelm Soviet defenses, leading to the MIRVing of our missiles. We placed multiple reentry vehicles or nuclear bombs on each missile, leading to a tripling of the number of deliverable nuclear warheads in the U.S. arsenal in the 1970's.

More recently, in preparation for the first summit meeting between President Reagan and Secretary Gorbachev, Caspar Weinberger wrote that:

Even a probable territorial defense would require us to increase the number of our offensive forces and their ability to penetrate Soviet defenses to assure that our operational plans could be executed.

In word and deed, the United States has demonstrated that defenses would cause us to increase our offensive capability. Can we expect the Soviets to behave any differently?

Can we expect them to decrease their offensive nuclear arsenal at the same time we are preparing to diminish the effectiveness of their remaining forces?

Turning to the third declared purpose for a partial defense, the SDIO claims that even a 10 to 20 percent effective defense would be militarily valuable. Quoting from the 1987 SDIO report to Congress, they claim that a partial defense would:

Service an intermediate military purpose by denying the predictability of Soviet attack outcome and by imposing on the Soviets significant costs to restore their attack confidence. It could severely restrict Soviet attack timing by denying them cross/targeting flexibility, imposing launch window constraints, and confounding weapon-to-weapon assignments, particularly of their hard-target kill capable weapons. Such re-

sults could substantially enhance the deterrence of Soviet aggression.

This is ludicrous. Does anyone really believe that an attack with nuclear weapons would have a predictable outcome? That the Soviets could ever have confidence in their attack plans?

This goal is based on the bizarre notion that the Soviet Union is deterred not by the threat of massive nuclear retaliation, but rather by the fear that they would fail to achieve certain military objectives by attacking with nuclear weapons.

Do we really believe that the Soviet Union would attack the United States knowing that they could only destroy the 18 percent of our nuclear warheads that are mounted on land-based missiles? Knowing that we could retaliate with over 5,000 nuclear warheads stored safely on submarines? Knowing that we could destroy most Soviet military, industrial, and civilians targets?

If they are deterred today by the threat of massive retaliation, how could the addition of partial defenses improve deterrence?

The fourth potential goal of protecting missile silos and command centers as suggested by my colleagues could have some merit. Deterrence, for better or worse, depends on the ability of both superpowers to retaliate with nuclear weapons which can survive a first strike by the opponent. Any weapon or technique which increases the number of survivable warheads could improve deterrence, but only if most other warheads in the arsenal are vulnerable to attack. To the degree that fixed, land-based missiles are becoming vulnerable, a point-defense of missile silos could improve deterrence.

However, with 5,000 survivable submarine-based warheads already in the U.S. inventory, it is questionable whether saving a few hundred or even a few thousand land-based warheads adds any significant value to our deterrence posture, unless one subscribes to the nuclear warfighting strategy that requires accurate, land-based missiles to be able to fight, survive, and win a nuclear war. And, even if survivable land-based missiles were deemed desirable, we should compare silo defense with other methods of reducing missile vulnerability, such as moving to mobile missiles, or, better yet, jointly removing all land-based missiles through negotiated reductions.

Based on this evaluation, I conclude that there is only one reasonable goal for SDI—as a hedge against Soviet ABM Treaty Breakout—one marginally worthwhile goal—the protection of land-based missiles. These two tasks would not require \$3 billion per year.

Examination of the SDI budget submitted by the administration reveals that about \$510 million is associated with countermeasures, lethality, hardening, data collection, and survivabil-

ity—the type of activities that would be prudent to assure our ability to penetrate or otherwise defeat possible Soviet territorial defenses. If laboratory research on high power lasers was deemed necessary, a budget of \$220 million would be adequate. Finally, funding for point defense of missile silos, the ground-based ERIS and HEDI interceptors with their associated sensors, would cost \$1.22 billion according to administration requests. If we adopted these administration budgets, which represent an extraordinary increase of 55 percent over last year's equivalent budget, then we could justify no more than \$1.95 billion for star wars for fiscal year 1988. Assuming that we apply the same fiscal restraint on SDI as we have on the defense budget as a whole, then the appropriate funding level for justifiable SDI projects would fall to about \$1.2 billion.

Mr. President, I conclude that it is irresponsible to continue funding for the SDI Program based on the illusion that it might lead to a nationwide impenetrable shield. We are not developing a shield. The SDI is a collection of weapons and associated sensors and computers. These weapons systems could be used defensively to attack ICBM's and they could be used offensively to attack space-based battlestations and communications satellites.

Based on an analysis of worthwhile and feasible SDI objectives, this program should be reduced to less than \$2 billion. The administration request for \$5.7 billion is totally unjustified. The committee recommendation of \$4.5 billion is still two to three times larger than is justified. I will therefore support the Johnston-Proxmire-Evans amendment at \$3.7 billion as the best lowest funding level that can be achieved this year, but I encourage my colleagues to evaluate the realizable goals of star wars, with an eye toward bringing funding levels down to the \$1 to \$2 billion level in future years.

Mr. President, we often set funding levels for a program by adding a fixed percentage to the previous year's budget. This may be appropriate for well established military programs with clear and rational missions. It is not appropriate for a program like SDI, which was conceived as an impossible dream and continues to this day with many contradictory goals and objectives. Some SDI objectives have merit. Other SDI objectives are simply not feasible, or are unnecessary, or are dangerously destabilizing. It is our responsibility to select only those portions of the SDI research program which are in the best long-term national security interests of the United States, and to reduce SDI funding to levels commensurate with those worthy goals.

I urge support for this amendment at the \$3.7 billion level.

I yield back any remaining time that I have.

Mr. EXON. Mr. President, I understand that we are scheduled to adjourn at 12:45. We have three Senators that wish to speak 5 minutes each.

I ask unanimous consent that those three Senators be allowed to speak 5 minutes each, with 5 minutes from this side, my side, to Senator THURMOND next; following that 5 minutes to Senator CHAFEE, charged to the time of the Senator from Louisiana; followed by 5 minutes to the Senator from Indiana, and that we continue until those times have run out before we recess for the caucuses.

The PRESIDING OFFICER. Is there objection? Hearing none, it is so ordered. The Chair recognizes the Senator from South Carolina.

Mr. THURMOND. Thank you, Mr. President.

Mr. President, I rise in opposition to the amendment offered by my distinguished colleague from Louisiana. The amendment in question will seriously delay the progress of the strategic defense initiative thus delaying the ability of the United States to defend against nuclear attack.

During the last 15 years, the Soviet Union has spent an estimated \$150 billion on strategic defenses, while the United States has spent one tenth of that amount. I certainly feel that the people of the United States are as worthy of protection as the people of the Soviet Union. Yet the Soviet Union is the only country with a deployed ABM system at present, and they are working relentlessly to upgrade and expand this system.

Mr. President, cuts previously enacted by the Congress have already slowed the progress and reduced the scope of SDI research. In fact, the level supported by the Senate Armed Services Committee will force an estimated 1 year delay in the program. Further reductions will only exacerbate the problem.

Mr. President, the distinguished author of the amendment has stated that he disagrees with the proposition that the Senate needs to hold the Senate Armed Services recommendation because we will have to ultimately compromise with the House of Representatives. I must remind my good friend and colleague from Louisiana that the chairman of the House Armed Services Committee stated that he supported House floor reductions to SDI as a matter of tactics for positioning the House for conference with the Senate. This being the case, it is imperative that the Senate maintain the level recommended by the Senate Armed Services Committee.

If we do not, we will be foreclosing decisions that should not be made for another decade. The House Armed Services Committee chairman has ad-

vocated a final level similar to that of the supporters of this amendment. If the Senate adopts that level now, the final result will be much lower.

Mr. President, the administration request for SDI called for an increase of about 60 percent over the amount approved for fiscal year 1987. In the Senate Armed Services Committee, we limited program growth to about 27 percent over last year. The amendment offered by the distinguished Senator from Louisiana, calls for virtual level funding for fiscal year 1988. In fact, after adjusting for inflation, the level called for in this amendment will be an actual reduction from last year's level.

The Senate has to make a decision today, and that decision is whether or not we will support the one program that has forced the Soviet Union back to the bargaining table on reducing nuclear weapons. That program is SDI. The Soviets walked out on the arms talks in Geneva, but they returned because of SDI.

Mr. President, we must decide whether or not the Congress of the United States wants to hand the Soviets a unilateral concession with nothing in return. I for one oppose this approach.

A few years ago, I had the opportunity to travel to the Soviet Union with the chairman and ranking member of the Senate Armed Services Committee, the majority leader and the chairman of the Senate Foreign Relations Committee. We met with Mr. Gorbachev for several hours, and he relentlessly urged us to abandon SDI so that there could be progress in arms reductions.

Well, we have not abandoned SDI and we are progressing with reductions in nuclear arms. I am reminded of a popular television commercial involving an investment firm, where a noted actor states that this particular investment firm makes money the "old fashioned way," they "earn it."

Mr. President, I prefer the "old fashioned" method of forcing our adversaries to obtain concessions in arms reductions from the United States. I say make them "earn it," and the only leverage that we have to do so is SDI. I urge my colleagues to reject this amendment. It is not in the best interest of our Nation.

Mr. President, I yield the floor.

THE PRESIDING OFFICER. The Senator from Rhode Island is recognized for 5 minutes.

Mr. CHAFFEE. Mr. President, I intend to vote today for the amendment of the distinguished senior Senators from Louisiana and Wisconsin. I have been a supporter of their effort since its inception last year, and I still believe they have the right idea about the strategic defense initiative. They are not out to kill SDI, as some have accused them, and neither am I. No,

the sponsors of this amendment simply believe, as I do, that SDI must be kept in perspective. This amendment limits SDI to \$3.7 billion in 1988—hardly a complete denial of funds. Senate Armed Services, \$4.53 billion.

SDI's enthusiasts make glorious claims about the potential of the program. But we must remember that this research initiative is still in its infancy and certainly has a long way to go before it might make a meaningful contribution to the national defense. The SDI concept as we know it today originated only 4½ years ago in President Reagan's famous speech. Although since then SDI has been the subject of passionate arguments here in Congress, and of bargaining at the very highest levels of superpower relations, it is still largely an unknown quantity. In my view, the questions raised by SDI deserve our closest attention. They fall into three basic categories:

- I. Theory.
- II. Effectiveness.
- III. Cost.

I. THEORY—IS SDI BASED ON A SOUND STRATEGIC THEORY?

The basic premise of SDI, and President Reagan's main motivation in proposing the space shield, are easy enough to understand: Rather than rely on the admittedly risky doctrine of mutually assured destruction [MAD], in which each superpower leaves itself naked to nuclear attack, perhaps we can move to a defensive strategic plan in which the United States would seek to protect itself from nuclear attack. If all goes well, the theory says, we might even make nuclear weapons obsolete. In this simple form, the SDI vision is attractive.

There are, however, a number of major flaws in this vision. One is the unproven assumption that we should abandon deterrence, the doctrine that has prevented the outbreak of superpower war for more than 40 years. As illogical as it may seem, the fact is that MAD has worked. In order to discard MAD theory, and with it our nuclear arsenal, we would need to devise a truly leakproof SDI system.

But it will be monumentally difficult, and may be impossible, to create a perfect shield. And without a perfect SDI, we will always need up to date and reliable missiles of our own, to ward off possibly destructive attacks. Thus, until SDI attains perfection—and it's unlikely ever to do so—we must retain an essentially deterrent posture. So we must ask ourselves: Why pump tens and hundreds of billions into a new program that will leave us essentially where we were when we started—guided by the deterrent philosophy—and at the same time saddle ourselves with a new weapons race in space?

SDI proponents answer that their program will enhance deterrence. Each component that we put in space, they argue, will add one more unknown to the calculus of Soviet strategic planning, and thus discourage attack. In my view, however, with our first-rate submarine programs and ever-modernizing arsenal of bombers and land-based missiles, there are more than enough unknowns already to discourage Soviet attack. Is it worth spending hundreds of billions of dollars simply to add a few more question marks to the strategic equation? That question is a big enough one to convince me that SDI should be kept at a relatively low level of funding, and as a research program, for the foreseeable future.

I disagree strongly with the backers of SDI who are more than willing to abandon the ABM Treaty and allow SDI testing and development to proceed. The successful ABM Treaty has proven the workability of the deterrent philosophy, and I for one am not prepared to abandon that theory in order to unleash a research program that has just begun to get underway.

II. EFFECTIVENESS—CAN SDI WORK?

The practical question of whether SDI can work is not an easy one to answer, but obviously it should have a prominent place in our budget decisionmaking. In fact, this question is covered by the first two of Paul Nitze's three criteria for SDI, which were feasibility, survivability and cost effectiveness at the margin. In order for SDI to work, it must be both feasible and survivable, and it has not yet proven to be either.

Clearly, we will not know for some time whether SDI can work because SDI researchers are still sifting through the various possibilities for the design of a deployable system. At the moment there is much discussion of beginning some kind of deployment in the mid-1990's. Putting aside for a moment the grave ABM Treaty implications of this proposal, let's look at what would be deployed under such a plan.

The only SDI technology that could possibly be ready for deployment in the next 10 years would be interceptor rockets—the so-called kinetic-kill vehicles—on space platforms. Now this is a fairly crude concept that has been in existence since the 1960's, and many distinguished scientists have raised serious questions about it.

In his testimony last March before the Subcommittee on Defense Appropriations, Dr. Harold Brown, the former Secretary of Defense, pointed out that the kinetic-kill variety of SDI would be ineffective and easily countered by Soviet countermeasures, particularly what are called fast-burn boosters. These would essentially make incoming Soviet missiles much

harder to detect and destroy. In fact, Brown pointed out that the Soviet fast-burn countermeasure would cost them 5 or 10 times less than it would cost the United States to put up this early version of SDI, which indicates that this rocket-based space defense system would not meet the Nitze criterion of cost effectiveness at the margin.

Other SDI technologies in the area of directed energy—lasers and particle beams—might be much more effective as a space shield. But last April's report of the distinguished American Physical Society, composed of some of this country's leading scientists, made clear that we will not even know if these futuristic SDI weapons will be feasible for a decade or more. The message of that report, according to one analyst quoted in the New York Times of April 24, "is that we can have a long-term, serious research program in ballistic missile defenses, and still stay within the ABM Treaty because the technologies we want to test will not be ripe for a decade."

I believe the scientists should be listened to on the practical possibilities of the SDI research program. Unfortunately, the Department of Defense is not heeding them, and is placing undue emphasis on development of kinetic-kill weapons that may well be obsolete before they are even ready for deployment. The scientific community is providing no evidence that we need to rush SDI, so why in this defense budget should we give the program a huge, disproportionate funding increase? There is no good reason.

III. COST—CAN WE AFFORD SDI?

The affordability of SDI must be examined not merely in terms of the price tag, but also of whether the financial tradeoffs are worth it. Some estimates of the cost of deploying an SDI system have approached the trillion-dollar mark. That figure, of course, is astounding enough all by itself, but we must also think seriously about what we would have to give up in other defense programs in order to invest such large sums into SDI.

With a new INF treaty apparently close to completion, I am convinced that our conventional needs must be strengthened. I share the President's delight that an entire class of nuclear weapons may be eliminated by a superpower treaty, but I am also realistic about the new costs such an agreement will entail. The cold fact is that conventional forces are more expensive than nuclear weapons, and will by necessity begin to demand more emphasis in our annual defense budget. I see no possibility that, suddenly in the mid-1990's, we will find \$50 or \$100 billion to put into a deployed SDI system, and I shudder to think what would happen to our conventional capabilities if we did so. In this respect, the amendment before us today sets

the right tone: Let us not let SDI run away with more than its share of the defense appropriations.

In a speech I gave in London 2 years ago, I said that a reasonable level of funding for an SDI research program would be about \$2 billion per year. I continue to believe that such a limited funding level for a strictly research program, adhering to the strict and correct interpretation of the ABM Treaty, would best serve the defense needs of this country. There is no need at this point in time to trash an extremely valuable treaty, and the deterrence doctrine that goes with it, simply because a dreamed-of space shield has captured some peoples' imaginations. Let's face it—the furor over the Krasnoyarsk violation and other ABM concerns has not arisen because these problems are insoluble through international diplomacy. And the new interpretation of the ABM Treaty is not based on objective legal reasoning. All of this is an attempt by the supporters of SDI to gut the ABM Treaty and proceed with SDI. I take issue with their approach.

The 3.5 percent real growth in SDI allowed by this amendment will take the program to \$3.7 billion. Given our other pressing defense needs—one need only look at the Persian Gulf—I continue to believe that is too much money. But apparently that is the figure that is politically achievable. Certainly it makes more sense than the administration request of \$5.8 billion, an imprudent 55-percent increase over last year's figure. In an overall defense budget that will see almost little or no real growth this year, I find it hard to justify any special increase for SDI. Are space lasers really more important than minesweepers or gas masks? But I will support this amendment as the best alternative available.

When the President gave his speech in 1983, SDI was what it remains today, an interesting idea—something worth looking into. The fantastic possibility of throwing up a defensive shield over the United States, to repel incoming ballistic missiles, is intriguing. But exciting as it may be to imagine an end to our fears of nuclear attack, it would be wrong to let the imagined possibilities of SDI obscure the real defense needs of 1987. Let's not rush into this rash and unproven new approach to national defense. I urge all Senators to approve the proposed cut in SDI funding.

The PRESIDING OFFICER. The time of the gentleman is expired. The Senator from Indiana is recognized for 5 minutes.

Mr. QUAYLE. Mr. President, let us get this debate straight. What we are doing here is digging a grave for SDI.

We are going to do it in a nice way. We are going to do it with a smile on our face. We are going to do it saying,

gee, we really are for SDI; we just want to cut the funding.

Let me tell you what is happening. This amendment is sort of a nice, polite way to be able to kill SDI, because the practical effect of this amendment is to confine SDI to research under Gorbachev's definition. Pretty soon the Soviets are simply going to argue that we can only do what the Senate says, since we are now arguing that SDI ought not to get beyond laboratory research.

This amendment, then, is a polite way of putting SDI right in the grave preventing it from ever being developed and then saying, well, it did not work, it cannot work.

I wonder how many research programs would survive if we cut the funding every time the program encountered problems. That is precisely what we are doing here. If there are some problems with the program, what are we doing? Cut the funding.

Did we have problems with the Trident, R&D with the Trident? We had some problems. Sure, we had problems. Did we cut the funding on that? No, we increased the funding to work out the problems. What are we doing with SDI to work out some of the problems? Cut the funding.

Mr. President, I want to focus in my short time on what the options are for SDI because I agree with some of the critics that say no, we do not want to go forward with SDI, if it means only locking ourselves into this so-called astrodome concept.

I cannot tell you whether the astrodome concept is going to work. I do not really know. I do not think anybody knows. If, in fact, we get that, it is going to be way, way down the road in the future and it is expensive and I do not even know if we would want to do it at the time we get the option to deploy it.

Let me tell you what I want to do, I want to give a future President the options to deploy, on an incremental basis, some strategic defense systems.

Mr. President, the people that I talked to in my State and the people that are looking at this whole arms control process, they want to see a reduction of nuclear weapons. They are not talking about just a reduction of INF nuclear weapons. They are talking about a reduction of strategic nuclear weapons.

If, in fact, we are going to see a reduction in nuclear weapons and get them down to smaller numbers, then defenses are going to be far more important than they have been in the past.

When are we as a nation going to get rid of the idea: To have peace and to have deterrence the only way is through offensive force?

That is what this debate is focused on.

I think that you can in fact have more stability, increased deterrence, a better prospect for peace as you reduce offensive nuclear weapons and also eventually deploy some defensive systems.

But there is absolutely no way with this kind of amendment that you are going to be able to go forward in a prudent, logical way to give those options to this President or a future President.

I can tell you, there is strong indigenous popular support for the concept of defense. Many people in this country do not realize we have no, zero, strategic defense. If you had a ballistic missile that was shot on an accidental basis that was coming to this country: tough luck.

That is a pretty sad commentary. That is a pretty sad commentary that we do not have the capability to knock down one nuclear ballistic missile that might be fired against this country.

Take that situation off the coast of Bermuda about a year ago where a submarine caught fire. What if that had gotten out of control and all of a sudden there is an accidental launching of a SLBM and Gorbachev got on the hot line and said: "Mr. President, I am sorry, no provocation, it is an accident, true accident. Here is the target, here are the coordinates."

Do you know what? We could not stop that SLBM, even if we had that information.

I believe the American people strongly support the concept of peace and deterrence through defensive capabilities.

As a matter of fact, a lot of my constituency are surprised when I tell them the fact that we do not have any defensive capabilities. So, Mr. President, we are, in essence, in sort of a nice way saying, well, we do not really mean it, I guess; that we are for SDI, but we are placing this in a grave. We are confining it in the research only and it will possibly not come to fruition. I think that is a grave, grave mistake.

RECESS UNTIL 2 P.M.

The PRESIDING OFFICER. Under the previous order, the Senate will now stand in recess until the hour of 2 p.m.

There being no objection, the Senate, at 12:46 p.m., recessed until 2 p.m.; whereupon, the Senate reassembled when called to order by the Presiding Officer (Mr. BAUCUS).

The PRESIDING OFFICER. Who yields time on the amendment?

Mr. EXON. Mr. President, I was prepared to yield time to the senior Senator from Virginia, who has 10 minutes scheduled. I do not see him on the floor at the present time. I do see my colleague from California. I would suggest that, in view of the absence of speakers that are scheduled to speak at this time and in view of the absence of those on the opposite side of this

amendment, we have a quorum call with the time equally divided.

The PRESIDING OFFICER. Is there an objection to the request? If not, the clerk will call the roll.

The assistant legislative clerk proceeded to call the roll.

Mr. EXON. Mr. President, I ask unanimous consent that the order for the quorum called be rescinded.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. EXON. Mr. President, I yield 10 minutes of our time to the distinguished Senator from Virginia, the ranking member of the Armed Services Committee.

Mr. WARNER. Mr. President, I thank my good friend and fellow colleague on this committee. We came to the Senate at the same time and have worked together these many years and hopefully for many more.

Mr. President, I thank my distinguished colleague from California for his very skillful management of this amendment. Due to compelling commitments for me and the chairman of the committee to be present at a hearing of the Armed Services Committee throughout the morning since 8:30, I have not been able to participate as I had originally planned in the debate on this amendment.

I, needless to say, rise in the strongest of opposition to the amendment offered by the distinguished Senator from Louisiana. In doing so, I would like to take a few moments to comment first on the SDI funding, the funding number that is in the committee bill; second, on the impact of the funding reduction being advocated by the Senator from Louisiana, and finally on the timing of this amendment, coming as it does after substantial progress on the arms control front.

Mr. President, the Armed Services Committee recommended an authorization of \$4.1 billion of the \$5.2 billion requested for SDI research by the Department of Defense and \$308 million of the \$569 million requested by the Department of Energy. This recommendation had the effect of reducing the percentage growth in SDI funding, not accounting for inflation, from the requested 60 percent increase over last year's level to a percentage increase of about 27 percent.

I should note for the benefit of my colleagues that unlike the Levin-Nunn amendment on SDI testing, which severely divided the committee and was debated at length by the entire Senate, there was strong bipartisan support for the SDI funding level in the Armed Services Committee.

There was also an appreciation—and I pay special acknowledgement to the chairman of the subcommittee of the Armed Services Committee that had guided, this year, the issues related to strategic forces with great skill and fairness—by the members of the com-

mittee that the SDI Program could no longer absorb reductions, averaging 30 percent annually over the last several years, without an impact on the program, and indeed it has been an adverse impact on the program and that has been carefully covered here this morning.

The reductions in past years have been accommodated by eliminating competing technology approaches and delaying certain efforts. While these steps increased the risk to program success, the overall objectives were not substantially degraded.

The effect of the Armed Services Committee reduction has been estimated to be up to a 1-year delay in the program, with key projects in theater missile defense, directed energy, battle management, survivability, and lethality, reduced or delayed.

Mr. President, no one on the committee was under the illusion that the SDI funding level recommended would be the final figure for fiscal year 1988. At the time of our markup, the House Armed Services Committee had already recommended a number that was \$1.1 billion lower than the Senate position. The House number was subsequently lowered on the floor by another \$400 million. The argument used by the chairman of the House Armed Services Committee, Mr. ASPIN, is most germane to the debate we are having today. In adopting a funding level of \$3.12 billion for SDI, Mr. ASPIN argued that he preferred a higher number, around \$3.5 or \$3.6 billion as a final outcome, but as a matter of tactics in the conference between the Senate Armed Services Committee and the House Armed Services Committee, he supported a lower number that was adopted by the House. Were we to adopt the Johnston amendment, we would lose that flexibility and, indeed, it would go counter to the tactics adopted by the House under the leadership of the chairman of the House Armed Services Committee.

Mr. President, I presume that the supporters of this amendment favor a final outcome for the SDI Program at the level of the amendment. They must realize, however, that the Senate position must be compromised with the House position that has been purposely set at a low figure as a matter of conference tactics. This amendment, therefore, undermines the Senate's ability to achieve even the funding level being advocated by its sponsors.

Mr. President, let's look a moment at the funding level proposed by this amendment, which is somewhat clouded by the fact that the sponsors proceed from a different SDI funding baseline than that used by the committee. The \$4.5 billion committee figure for SDI research does not in-

clude the \$100 million that the Senate authorized, but the House did not, for military construction associated with the national test bed. On an apples and apples basis, the amendment allows virtually no growth over fiscal year 1987 funding levels for either DOD or DOE SDI research. When adjusted for inflation, the amendment would actually reduce the fiscal year 1988 program below that which was approved in fiscal year 1987.

Mr. President, the effect of this reduction is difficult to capture fully, since it brings the level of funding for the program below the level where slippages and cancellations alone can accommodate the reduction. It may very well require a fundamental restructuring of the careful balance that has been maintained between validation experiments and technology base research. At a minimum, the reduction will severely impact those initial systems that the Secretary of Defense recently approved for the demonstration-validation phase of the acquisition process. Some technology validation experiments will be canceled, and others delayed 2 or more years. Most significantly, sensor projects, which would satisfy important requirements outside of the SDI Program, such as early warning of missile attack, will be delayed 2 or more years. Terminal defense radars, and perhaps the Terminal Defense Missile Program—known as HEDI—will be delayed indefinitely or terminated.

Mr. President, this is not just another budget reduction to the SDI Program, along the lines of previous years. This reduction will significantly delay the program, and may well not permit the careful balancing of near-term and advanced technologies that has characterized the program despite budget reductions in the past.

Mr. President, I want to make a final point and that is one that has been made time and again in this body, and frankly, I believe bears repeating in view of the severe effect that this amendment will have on the SDI Program.

I believe that this amendment undermines the position of our negotiators in Geneva. SDI, in my judgment, was largely responsible for bringing the Soviets back to the negotiating table. It has been the President's tough stand on SDI that has been instrumental in the progress that was achieved on the INF. I believe that continuing to stand tough on the SDI is the best hope we have for achieving the deep reductions in strategic arms that both nations will be working toward over the coming months.

Mr. President, we will not resolve the final number for the SDI Program on the floor of the Senate today. I assure my colleagues, however, that the position recommended by a bipartisan majority of the Senate Armed

Services Committee greatly enhances the prospects that the final outcome will be a program that maintains a balanced program, and enhances the prospects of our negotiators in Geneva.

Mr. EXON. May I ask the Chair as to the amount of time remaining on each side?

The PRESIDING OFFICER. The Senator from Nebraska has 10½ minutes remaining, the Senator from Louisiana has 14 minutes remaining.

Who yields time?

Mr. JOHNSTON. Mr. President, I yield myself 7 minutes.

Mr. President, I hope we have begun to focus the question on SDI in this debate. If I may summarize our position, it is as follows: First, we strongly support a robust R&D Program in the strategic defense initiative. My own credibility has been proved in that regard by increasing the House number in my own appropriations subcommittee by some \$30 million for the core programs at our national labs.

Those increases, however, were in the beam programs, the laser programs, the neutral particle beam weapons, and those are where the real promise is.

Mr. President, what this debate is about is the space-based kinetic kill vehicles. Mr. President, it is perfectly plain that a reorientation of those programs has taken place with a view to go to an early deployment.

If you look at the budget of the Department of Defense, Mr. President, you will find there is no increase—well, there is a 0.1 increase for beam weapons, technology there is a 139-percent increase for space-based kinetic kill vehicles.

That is the core of this debate: Should we or should we not have a 139-percent increase in space-based kinetic kill vehicles?

Mr. President, if you go by scientific data, and scientific study, the answer is a resounding no. The BAMBI Program in 1962 was exhaustively studied. They issued a report. I have here a copy of that BAMBI report, Mr. President. They had actual tests, actual collisions with incoming warheads; the precise same technology although to be sure the heat-seeking sensors have improved; to be sure, the boosters are faster burn than they were at that time. But it is the same technology. It was rejected at that time.

Come 1982 and 1983, a new version called the High Frontier was proposed and again rejected.

Mr. Carlucci, who at that time was Under Secretary of Defense, was the lead man in the Department of Defense who wrote the report rejecting High Frontier. That was virtually at the same time when the President was making his March 1983 speech proposing this brandnew program which was going to make America safe and

render nuclear weapons impotent and obsolete.

Mr. President, the ground shifted, of course, since then. There is no longer any talk about making nuclear weapons impotent and obsolete. Oh, the President may still be saying that, but none of his people are saying that. And now, Mr. President, we are talking about a limited deployment with a success ratio of about 16 to 20 percent depending on what assumptions you make.

We are talking about a cost of around \$100 billion. We are doing that at the time when the scientists say it will not work.

Mr. President, I have quoted extensively from the memo to the Under Secretary for Acquisition which has said that we should not have what we call a phase 1 R&D program, that we are only ready for the zero phase. I quoted that into the RECORD extensively. The task force chairman said it is totally premature because there are too many gaps. They do not know about system performance, system cost, or schedule. In other words, they do not know whether it will work, how much it will cost, or when it would be available and you need to fill in those gaps before you go to this phase 1 which is this 139-percent increase.

Mr. President, in July 1987, this year, the Lawrence Livermore Laboratory was commissioned to do a study on the effectiveness of KKV's. There was an article in the San Francisco Chronicle dated July 1987 which sums it up. If I may read:

Dateline, Livermore, California:

Weapons which would destroy incoming enemy missiles by smashing into them won't shield the United States from new Soviet missiles planned for the next decade, a report by weapons experts concludes.

"We are very skeptical of the wisdom of relying on the first generation of kinetic kill vehicles to provide any real protection," said Christopher T. Cunningham, group leader for strategic defense systems studies at Lawrence Livermore Laboratory and sponsor of the study.

"The study means, in essence, that kinetic kill vehicles won't do any damned good," said Sidney Drell, a physicist and co-director of the Center for International Security and Arms Control at Stanford University.

Mr. President, I ask unanimous consent that the article from the San Francisco Chronicle along with a fuller description of the article from Defense Systems for July 1987 describing in more technical terms that report be put into the RECORD at this point.

There being no objection, the articles were ordered to be printed in the RECORD, as follows:

[From the San Francisco Chronicle, July 1987]

NEW SOVIET MISSILES COULD GET PAST SDI, LABORATORY STUDY SAYS

LIVERMORE, CALIF.—Weapons which would destroy incoming enemy missiles by smash-

ing into them won't shield the United States from new Soviet missiles planned for the next decade, a report by weapons experts concludes.

"We are very skeptical of the wisdom of relying on the first generation of kinetic kill vehicles to provide any real protection," said Christopher T. Cunningham, group leader for strategic defense systems studies at Lawrence Livermore Laboratory and sponsor of the study.

"The study means, in essence, that kinetic kill vehicles won't do any damned good," said Sidney Dreil, a physicist and co-director of the Center for International Security and Arms Control at Stanford University.

So-called kinetic kill weapons would not use explosives but would collide with warheads at high speed. Later, more sophisticated defensive systems are envisioned that might use technologies such as high-power lasers and atomic particle beams.

Defense Secretary Caspar Weinberger contends a rudimentary but effective kinetic kill anti-missile system could be up and working by 1994.

But the report, in the laboratory's Energy and Technology Review magazine, says the system would be effective only against Soviet missiles in use at present.

The report says it would take only a few thousand kinetic kill vehicles poised in polar orbit to knock out the current Soviet force of SS-18 and SS-19 intercontinental ballistic missiles.

But it says newer SS-24 and SS-25 missiles the Pentagon expects the Soviets to install in the next decade will be much harder to knock out, probably requiring about 100,000 kinetic kill vehicles, because their first-stage boosters will burn faster and give defense less time to react.

[From Defense Systems, July 1987]

KINETIC-KILL VEHICLES

A system of space-based kinetic-kill vehicles (KKVs) is often proposed for the first tier of a strategic defense. KKV's rely on a very precise homing capability to ram their targets, transferring a lethal amount of kinetic energy. Since the technological requirements for KKV's may be lower than for beam weapons, KKV's are often proposed as near-term defenses for the mid-1990s or even earlier. However, KKV's are limited by the time-of-flight necessary to reach their targets, a limitation that may make them vulnerable to some Soviet countermeasures.

A space-based defense might consist of a number of carrier satellites, each containing several KKV's, in low-altitude orbits. If enemy missiles were launched, defense sensors would detect and track the missiles' boosters and give detailed target information to the individual KKV's. The KKV's then should reach their targets—boosters and post-boost vehicles (PBVs)—before the targets deploy many of their reentry vehicles and decoys. Thus, the flight velocities of the KKV's and the operating times for boosters and PBVs are crucial in this race.

Since the mass of a small rocket roughly doubles for each 2 km/s of final velocity, there is a trade-off between speed and weight; this implies an optimal KKV design which is neither too slow nor too heavy. Except for responsive threats (weapons designed to defeat defensive measures) like fast-burn boosters, this optimal design has a velocity of about 6 km/s. (This velocity is assumed in the Marshall Institute's 1987 study *Missile Defense in the 1990s*. We also adopt their values of a 20-g acceleration of

the KKV as it leaves its carrier satellite and a kill probability of 0.9 against its target.)

Another important characteristic of the defense is the amount of time between threat launch and KKV launch, i.e., the time required for the defense to detect and track the boosters, perform battle management, and hand over information to the KKV's. In general, the U.S. defense could not respond before the missiles break out of the troposphere (at about 10 km), if we allow for cloud cover. This takes about 20s for solid-fuel boosters like the MX and probably about 30s for liquid boosters. The assumption of such short response time is very favorable to the defense but precludes human decisions.

Whether or not such a KKV defense would be effective depends upon the threat. To illustrate this, we consider three threats: the current Soviet ICBM force, dominated by SS-18s; a threat for the mid-1990s, which augments current SS-18s and 19s with significant numbers of SS-24s and SS-25s; and a near-term responsive threat, consisting only of SS-24s and SS-25s modified for reduced boost and deployment times.

The inventory of the current Soviet ICBM force, 1400 missiles and 7000 warheads, consists mostly of liquid-fuel boosters with MIRVed PBVs. The Soviets are replacing some of these missiles with a solid-fueled singlet, the SS-25. These two types of systems differ radically in their operation times; current liquid-fueled boosters burn for about 5 min; solid-fueled boosters, about 3 min. We estimate from MX technology that reentry vehicles are deployed from PBVs at the rate of about one every 45 s. Thus, an SS-18 with 10 MIRVs has a total operation time of about 12.5 min, compared to about 3.8 min for the SS-25 singlet.

Assuming 20 s for initial launch detection and a 20-g acceleration, a 6-km/s KKV can fly about 4300 km from its carrier before intercepting the SS-18 PBV but only about 1100 km against the SS-25. Since the portion of the defense that can engage is roughly proportional to the square of the flyout distance, this implies that about 14 times more KKV's will be able to engage SS-18 than SS-25s.

While the current Soviet inventory provides a useful comparison, it is not the threat a defense would face in the next decade. The Department of Defense estimates, on the basis of present trends that the Soviet Union will have modernized its ICBM force substantially by the mid-1990s. By then this force is projected to consist of about 300 SS-19s, a more highly MIRVed heavy missile (possibly a successor to the SS-18, unconstrained by treaty), plus significant numbers (600 each) of SS-24s and SS-25s (the latter likely to be MIRVed follow-on), for a total 14 000 warheads on 1800 missiles.

This projected threat does not include a U.S. defense, which must be a key element in Soviet planning. For instance, it is unlikely that the Soviets would devote resources to revising a system like the SS-18, which is so obviously vulnerable to defenses. It seems reasonable that they would concentrate on their new systems, the SS-24 and 25, to make them less vulnerable.

One of the main areas of vulnerability is the long operation time of a highly MIRVed PBV, such as the SS-24. We are investigating schemes for reducing this time. For example, if the RVs were deployed simultaneously, deployment time would be that for a single RV, no matter how many were launched. One way to accomplish this would

be to have the payload break up into individual components directly after boost (the way the SS-11, a MRV, operates). This requires duplication of guidance and deployment hardware for each RV. An additional penalty would be the inability of responsive PBVs to carry quite as many MIRVs as their conventional counterparts.

Our near-term responsive threat eliminates the vulnerable SS-18s and SS-19s from the inventory entirely. The same numbers of SS-24s and SS-25s (600 each) are assumed as for the projected threat. However, their PBVs have been modified to deploy within 45 s. Modest reductions in booster burn times (by 30 s or so), such as might be achieved with propellant and nozzle modifications only, are also assumed. The modified SS-24 would carry 6 rather than 10 reentry vehicles per booster, and the SS-25 would carry 2 for a total inventory of 4800 warheads on 1200 boosters.

A fast-burn booster with an action time of about 50 s is often cited as a possible defense response. Significant guidance and control problems have been identified for such short burn times. However, such a very short burn is not needed to defeat the boost phase of a KKV defense, as our effectiveness calculations show. We are studying the feasibility and technology requirements for missiles with a somewhat longer burn time. This would be a completely new system however, and not a near-term response.

To assess the performance of the defense against the threat, we use a computer simulation that moves the threat boosters, PBVs, satellite carriers and KKV's along their trajectories to find the targets that may be attacked from each carrier. Then KKV's are assigned to targets in order to best achieve the defense's objective—in this case, to minimize the number of RVs deployed.

Figure 1 shows the number of RVs reaching midcourse as a function of defense inventory for each of the three threats. Only a few thousand KKV rockets are sufficient to impair a system like the SS-18 with long boost and deployment times. Thus, the defense will compromise the current or projected threats with a rather modest inventory. The SS-24s and SS-25s of the projected threat are more difficult targets; so, to destroy, say, 90 percent of the projected threat in boost or deployment phases, about 100 000 KKV's would be needed. The responsible threat is not liable to KKV attack in its boost and deployment phases because of its short action times. However, it has a smaller total number of RVs, since it does not use existing ICBMs and requires more throw weight per RV. Importantly, the deployed defense has resulted in significant reductions from the projected threat without firing a shot.

Our analysis has focused on defense against missiles in boost and post-boost phases only. Space- and ground-based KKV's can be brought into the midcourse battle in much greater numbers than the threatening RVs. Therefore, one of the first countermeasures the Soviets could be expected to develop would be midcourse decoys. Studies by AVCO suggest that large numbers of decoys could be rapidly deployed.

These results substantiate the value of greater efforts to understand better the options open to the offense and the penalties associated with those options. Here we have presented the results of only one defensive move and offensive response. There are many others not addressed here.

(Key Words: kinetic-kill vehicles; strategic defense systems.)

Mr. JOHNSTON. Mr. President, to sum up, the question is—when the defense authorization bill as we speak is \$14 billion over the target of the budget resolution in budget authority, when it is over \$10 billion over the target in outlays—should we be going for a 139-percent increase in the very technology, the SBKKV technology that the Department of Defense says you should not do, that Lawrence Livermore Labs, who is the lead lab on it says you should not do, when the American Physical Society says it will not work, and virtually every other scientist in America save a few of those employed by the SDI and maybe a few others, not many, say we should not do it?

So why should we do it? Well, I do not know, Mr. President. I really do not know except to say that we have to have it for Geneva, or we have to have it to go to conference. I think it does not make any sense.

The PRESIDING OFFICER. Who yields time?

Mr. EXON. Mr. President, we have 10 minutes remaining. I will give 2 minutes of that time to the Senator from Virginia and 4 minutes to the Senator from California. I will conclude with the final 4 minutes which will use up all the time on this side of the aisle.

I yield to the Senator from Virginia for 2 minutes.

The PRESIDING OFFICER. The Senator from Virginia.

Mr. WARNER. Mr. President, I thank my colleagues.

Mr. President, time and time again, this Senator and other Senators on both sides of the aisle have spoke on issues in this bill and indicated the severity of those issues on the arms control process. It is clear now that SDI was one of the principal inducements to bring the Soviets back to the negotiating table. As we are here this afternoon addressing the issue, negotiations are taking place in Geneva, in the United Nations, and elsewhere, working toward what hopefully will be a common goal to reduce the level of nuclear weapons throughout the world, those weapons which are in the hands of the United States and the Soviet Union.

Progress is being made and we are about to render judgment on that key issue that brought the Soviets to the negotiating table. If this amendment prevails, it will be another indication that we are undercutting the efforts of our negotiators at the very time that they are making good progress.

I urge my colleagues to reflect most seriously on the effect of this amendment on the arms control negotiations now taking place.

The PRESIDING OFFICER. The Senator from California.

Mr. EXON. I yield 4 minutes to the Senator from California.

Mr. WILSON. Mr. President, thank you.

Mr. President, the Senator from Virginia is absolutely correct. What is more, I want to pay a compliment, a deserved compliment, to the chairman of the subcommittee, the Senator from Nebraska, under whose leadership this compromise was crafted, this bipartisan compromise which passed with a bipartisan vote.

Mr. President, there has been one great manifest. This statement that has been made—there have been several, but one in particular—the idea that this phase 1 defense, when deployed, which is far in the future, would in fact result in a 20-percent effectiveness is an absurdity.

If there is any doubt, General Abrahamson, the director of the program, has right-out said, the full effectiveness is a matter that is classified. We cannot discuss it here in the open. But it is many times that which we have been led to believe by the opposition. It is not 20 percent. That is simply not true. It is not true, as the Senator from Massachusetts said, that it includes a point defense. It does not. What is true is that the Senator from Louisiana is urging that we get to the exotic systems and the neutral particle beam, chemical laser, and Excimer laser, all of which would suffer a very sharp injury. In many cases, to take the neutron particle beam and the chemical laser they would be terminated under the level of funding he is recommending. The flight experiment for the chemical laser would be terminated under the level of funding he is recommending. The Excimer would be terminated at that level of funding. It does not reach just phase 1. It affects the entire process.

Let me get to a point on which he spent much time: The Defense Acquisition Board, for the first time operating on a major decision as a threat validation by the Defense Intelligence Agency, which is an amalgam of all inputs from all the other two agencies, does not find the result we have been told confidently by the Senator from Louisiana. He does not think it is any trick at all for the Soviets to come up with a fastburn capability. They do.

I suggest that those sources, plus the scientists who have informed the SDIO, have offered far more convincing proof than political scientists in the cloakroom. In fact, he has said nothing about the degradation as you achieve a fast-burn capability. He said nothing whatever about the degradation in accuracy.

The point is very simple. He has spent all his time talking about one element of a program which is by no means the only element, but one that is necessary and will be necessary as we progress further down the path.

He is projecting a choice that is a false choice. He has suggested a level

of funding that bears no relationship to anything in the program nor in the history of weapons systems development beyond an arbitrary 3-percent growth, which is no real growth.

Mr. President, we are posed a choice, and it is simple: The Soviet Union has been spending as much as \$20 billion a year on ballistic missile defense. There is no argument that they have been spending \$150 billion over the past decade. The choice is this: Will we let them go forward with the very research program we are being urged to abandon, take the suggestion of the Senator from Louisiana for a level of funding which is less than the Soviets would permit under their narrow interpretation of the ABM Treaty? His logic is that there are gaps and deficiencies in the program. How will we ever fill them, if we cut back on the program?

The VICE PRESIDENT. The time of the Senator from California has expired.

Mr. HEINZ. Mr. President, although it is my intention to vote against tabling the Johnston amendment, I want to make it clear that I do not necessarily support the magnitude of the funding reductions proposed by that amendment.

I have been disappointed in the debate. I do support a strong, vigorous, strategic defense initiative. However, the justification for the \$4.5 billion for SDI contained in the Armed Services Committee's authorization bill has been, in my judgment, unconvincingly supported.

Perhaps the only clear, persuasive argument made by the proponents of the committee's budget level for SDI is that we need larger authorization numbers—such as the \$4.5 billion this time—in order to go to conference with an unrealistically low House authorization figure. I believe the House amount is too low. But while that can often be a legitimate factor in making a legislative decision, its use here to justify a \$1 billion increase over the previous year's appropriation is an example of taking an argument past the boundary of logic and common sense.

Mr. GARN. Mr. President, I have been listening to this debate on SDI funding levels with appreciation for all the positions presented today. But what has begun to cause me great concern is that I haven't heard anyone explain the reason for the strategic defense initiative research. By that I mean the fundamental reason behind the national decision to proceed with research on defensive technologies. It appears to me that we've all allowed ourselves to be lulled into a state of complacency over the reason for our strategic defense program—the alarming progress of Soviet efforts in strategic defense research.

By some inexplicable phenomenon it appears we have reached a point in history where we are more inclined to believe the word and good intentions of foreign governments than that of our own. The reasoning goes something like "if the Soviets say they're not doing work on advanced strategic defense technologies, it must be true and some unknown alarmist at the Pentagon is manufacturing evidence for Soviet military power." Well, let me tell you that is simply not true. I have received a number of classified briefings on Soviet efforts in space and strategic defense. The only thing I can say is that it scares me. I am concerned that if this Nation and this Chamber take a disinterested position about Soviet military and space efforts by undercutting the SDI Program, we will be far surpassed in technology and experience and will not be able to adequately address future challenges to our national integrity.

Chapter 3 of Soviet Military Power contains the best unclassified information on Soviet strategic defense efforts I've seen. It compiles information from the entire interagency community and is a prudent, careful analysis of where the Soviets are today. I emphasize the terms "prudent" and "careful" because it is not, in my opinion, an exaggeration of Soviet efforts. In Soviet Military Power, Secretary Weinberger clearly lays out the evidence for which we can now know that the Soviets are covertly carrying out the strategic defense program and surpassing us in many advanced strategic defense technology areas.

Now mind you, they have not yet admitted to having a strategic defense program. But, admit it or not, the facts are that since 1978 the Soviets have continued to refine and upgrade their ABM system around Moscow. Upgrading not only in numbers, but by making the whole system more sophisticated than anything they've ever had before. The Soviets have employed as many as 10,000 scientists and engineers and utilized more than a half dozen major R&D facilities and ranges to conduct research on advanced laser weapons. They have done work on space-based kinetic energy weapons and research on advanced sensor work. All in an effort to pull together a robust, effective Soviet strategic defense system. That's what our Government experts concluded. If you doubt U.S. experts analysis, listen to a man who won the Lenin Prize and the Hero of Socialist Labor Award. Anatoly Fedoseyev said, in a 1987 article by William Broad of the New York Times, that, "since the beginning of Soviet SDI, about 35 years ago, this project has never been interrupted or delayed. And I am sure it never will be." William Broad says in the same article that the Soviets are working on a facility in Dushanbe which will one

day house lasers as part of an ABM system. As if that isn't enough, the Washington Times charged in July of this year that the Soviets actually conducted a missile tracking test from the MIR space station—in violation of the ABM Treaty—to support their strategic defense program.

The signing of the ABM Treaty in 1972 did not end Soviet strategic defense activities. In fact, it has proved to be little more than a minor obstacle to their program. Clearly, they have shown great determination to modernize their ABM system, test air defense missiles against ballistic missiles, and develop radars and other ABM components all the while condemning U.S. strategic defense efforts as militarizing space and offensive technology.

Gen. John L. Pitorowski, Chief of the U.S. Space Command, is quoted as saying the "Soviets are spending about \$1 billion a year on laser research * * * alone. Our best estimates indicate a total of \$20 billion per year is spent on Soviet SDI research. Clearly, this is a program in which they have invested enormous time, money, and resources, to ensure its success. Additionally, this figure does not account for the millions the Soviets spend to buy and steal Western high technology that their research fails to produce. Are we willing to ignore its existence for our own convenience? Can we afford to ignore it any longer?"

There was an amusing piece in the New York City Tribune recently, a reprint from Pravda which claimed the administration was "ideologically and psychologically brainwashing the American public" in an attempt to garner support for the SDI program. It struck me as being amusing because it's a perfect example of how American and Soviet thinking differ. We have been perfectly open about our strategic defense program, our progress, and goals. On the other hand, they have determined it is wiser to shroud their efforts behind propaganda. No "brainwashing" was at work here, just the facts: The Soviets are very clearly working on their own SDI Program—that is the reason for the existence and support for the strategic defense initiative.

Mr. EXON. Mr. President, in the last 4 minutes, I will wind up the presentation against the amendment offered by the Senator from Louisiana, and then I shall move to table his amendment and ask for the yeas and nays.

We have had an interesting debate today on SDI, and I hope it has been informative so far as the Members of the Senate are concerned and also the Nation as a whole.

I appreciate the nice comments by my colleague from California, who has helped manage what we hope will be defeat of the Johnston amendment. I thank Senator WARNER, the ranking member of the Armed Services Com-

mittee. I also thank Senator STROM THURMOND, who played a key role as the ranking member of the Strategic Subcommittee when we worked out the compromise that is inherent in and a part of the armed services bill.

I heard a lot today about looking at the bigger picture. Mr. President, we should look at the bigger picture. There has been an attempt, though, in debate by those supporting this amendment, to look at the smaller picture, I suggest.

This is not a vote as to whether or not individual Members of the Senate feel one way or the other with regard to the treaty proposition that has generated a great debate on SDI. I happen to favor the so-called Nunn-Levin amendment. Others who will be voting with us on this tabling motion do not agree with that. That is not the issue; and I hope that when Senators come to the floor to vote in about 5 or 10 minutes, they will recognize that this is not at all, in any way, shape, or form, any indication as to how any of us feel as to the treaty violation. What this is all about, and the key to this whole debate which has been covered by the speakers, is what is going to be the funding level for SDI.

I suggest that in the current fiscal year, the one we are in now, we appropriated \$3.5 billion for the overall SDI Program. I have been a supporter of that program for a long time, and will continue to be in the future, while I do not believe that we should have substantial procedure beyond the laboratories at this juncture. But that is another matter.

This year, the administration requested \$5.7 billion, a significant increase indeed. The Armed Services Committee, through compromise, came out with \$4.5 billion. As has been pointed out, the House of Representatives, led by the chairman of its Armed Services Committee, came up with only \$3.1 billion.

I have always felt, as chairman of the Strategic Subcommittee, that we should be funding SDI at about a \$3.7 to \$3.8 billion level. That would be a 15- to 20-percent increase over last year.

I remind all my colleagues that if the amendment offered by the Senator from Louisiana prevails, we will cut SDI funding below the current year. I suggest that there are few in this body who wish to do that.

Therefore, I think it is very clear that we should stick with the compromise figure that the Armed Services Committee has in its bill, go to the House of Representatives, and we will have a difference of \$4.5 billion and \$3.1 billion. We all know it will end up about \$3.7 or \$3.8 billion.

Mr. President, I move to table the amendment of the Senator from Louisiana, and I ask for the yeas and nays.

The VICE PRESIDENT. While any time remains to the sponsor of the amendment, the motion to table is not in order.

Mr. JOHNSTON. How much time remains, Mr. President?

The VICE PRESIDENT. The gentleman has 6 minutes and 14 seconds.

Mr. JOHNSTON. I yield myself the remainder of the time.

Mr. President, it is said that patriotism is the last refuge of scoundrels. I can add a corollary to that, and that is that the bargaining chip is the last refuge of the big spenders.

I have seen more money wasted in this Congress under the rubric of bargaining chip than probably under the cloak of any other rhetoric.

The fact is that the Johnston-Proxmire amendment has more than sufficient money to give us whatever bargaining chip we need in Geneva.

If I may quote from the Armed Services Committee's report on page 120, it says this:

It is not necessary to fund the President's entire request for SDI to maintain our negotiating leverage in Geneva. It is the committee's belief that leverage for arms control negotiations comes only from real defense programs which are aimed at realistic objectives adequately funded and broadly supported by bipartisan consensus.

I could not put it any better.

To use the terms of the Armed Services Committee authorization report, is it realistic to have a 139-percent increase in the KKV budget?

Virtually everybody says it is not realistic. The report to the Department of Defense, the Under Secretary for Acquisition, says, no, we are not even ready to go in a phase 1 program which is funded by this 139-percent increase.

Lawrence Livermore Labs has done an extensive study at the behest of SDIO. They say, no, KKV, is not the way to go.

Dr. Harold Brown's testifies it can be defeated at less cost and sooner by the fast-burn booster. You have Dr. George Miller, from Lawrence Livermore Labs, who heads up the weapons programs, who says that fast burn "catastrophically," to use his phrase, defeats the SBKKV.

You even have Dr. Edward Teller—this is back in the High Frontier days in 1983—who says, "High Frontier," which is the space-based KKV, "High Frontier can be done for \$100 billion, let us say," said Teller, "but the Soviets can get rid of High Frontier for \$10 billion."

But, Mr. President, in spite of a \$14 billion excess by which this committee is exceeding the 302(b) allocation of the Budget Act, they proceed to give us a 139-percent increase in this unrealistic SBKKV technology.

Mr. President, it does not make any sense.

Point No. 2, I have made the assertion here on this floor many times that the kind of architecture they are talking about for this phase 1 would have an effectiveness of around 20 percent. We are told that, no, General Abrahamson is out here in the hall and he says it is many times that much. I can assure my colleagues that what he is talking about when he says "many times that much" is a late-phased, late-nineties, second-generation system based upon beam weapons not yet invented.

What I am talking about is this space-based kinetic kill deployment, the first deployment and that is, indeed, 20 percent or less. The precise figures, of course, are classified, but this is in the open technology. That is what they are talking about.

If you look at the testimony before the Defense Appropriations Subcommittee, they talk about this and this is a statement from the Defense Acquisition Board. They say, "These first phases could severely restrict Soviet attack timing by denying them cross timing flexibility," et cetera.

That is all they are talking about. For \$100 billion you can interfere with the timing of the Soviet attack.

Mr. President, if that is what we are talking about, a maximum of being able to interfere with the timing of Soviet attack, then I can tell you it is not worth the \$100 billion plus that it will take to fund it.

Mr. President, the evidence is overwhelming that space-based kinetic kill vehicles will not work. They can be easily defeated. Virtually the whole scientific community says that.

So, Mr. President, I say let us stick with our beam weapon emphasis which the Johnston amendment will more than adequately do and it will fund this program at a rate that we can afford.

Mr. President, somebody has to make the hard choices. Nobody is suggesting that we change the 302(b) allocation under the Budget Act. I guess it will have to fall to the Senate Appropriations Committee and not the Senate Armed Services Committee to make these choices and set these priorities.

That is why, Mr. President, I say under our amendment let us in the Senate set these priorities. Let us fund it at an adequate amount, \$3.7 billion.

I ask for the support of my colleagues.

The VICE PRESIDENT. The time of the Senator has expired.

The Senator from Nebraska.

Mr. EXON. Mr. President, I move to table the amendment by Senator JOHNSTON from the State of Louisiana and I ask for the yeas and nays.

The VICE PRESIDENT. Is there a sufficient second?

There is a sufficient second.

The yeas and nays were ordered.

The VICE PRESIDENT. The question is on agreeing to the motion of the Senator from Nebraska to lay on the table the amendment of the Senator from Louisiana. On this question, the yeas and nays have been ordered and the clerk will call the roll.

The assistant legislative clerk called the roll.

The yeas and nays resulted—yeas 50, nays 50, as follows:

[Rollcall Vote No. 259 Leg.]

YEAS—50

Armstrong	Gramm	Packwood
Bentsen	Hatch	Pressler
Bingaman	Hecht	Quayle
Bond	Heflin	Reid
Boren	Helms	Roth
Boschwitz	Hollings	Rudman
Byrd	Humphrey	Shelby
Cochran	Karnes	Simpson
Cohen	Kassebaum	Stennis
D'Amato	Kasten	Stevens
Danforth	Lugar	Symms
Dole	McCain	Thurmond
Domenici	McClure	Tribble
Exon	McConnell	Wallop
Garn	Murkowski	Warner
Glenn	Nickles	Wilson
Graham	Nunn	

NAYS—50

Adams	Ford	Mikulski
Baucus	Fowler	Mitchell
Biden	Gore	Moynihan
Bradley	Grassley	Pell
Breaux	Harkin	Proxmire
Bumpers	Hatfield	Pryor
Burdick	Heinz	Riegle
Chafee	Inouye	Rockefeller
Chiles	Johnston	Sanford
Conrad	Kennedy	Sarbanes
Cranston	Kerry	Sasser
Daschle	Lautenberg	Simon
DeConcini	Leahy	Specter
Dixon	Levin	Stafford
Dodd	Matsunaga	Weicker
Durenberger	Melcher	Wirth
Evans	Metzenbaum	

The VICE PRESIDENT. On this vote the yeas are 50, the nays are 50. The Senate being equally divided, the Vice President votes aye and the motion to table is agreed to.

Mr. EXON. Mr. President, I move to reconsider the motion.

Mr. DOLE. I move to lay that motion on the table.

The VICE PRESIDENT. Without objection, the motion to table is agreed to.

The PRESIDING OFFICER (Mr. BAUCUS). The Senator from South Carolina.

(The remarks of Mr. THURMOND are printed later in the RECORD under Statements on Introduced Bills and Joint Resolutions.)

AMENDMENT NO. 711

(Purpose: To limit the testing of anti-satellite weapons)

The PRESIDING OFFICER. The Senator from Massachusetts.

Mr. KERRY. Mr. President, I send an amendment to the desk and I ask for its immediate consideration.

The PRESIDING OFFICER. The clerk will report.

The legislative clerk read as follows:

The Senator from Massachusetts (Mr. KERRY) for himself and others proposes an amendment numbered 711.

Mr. KERRY. Mr. President, I ask unanimous consent that further reading of the amendment be dispensed with.

The PRESIDING OFFICER. Without objection, it is so ordered.

The amendment is as follows:

At the appropriate place in the bill, and the following new section:

SECTION . LIMITATION ON TESTING OF ANTI-SATELLITE WEAPONS.

(a) Funds appropriated to or otherwise available to the Department of Defense may not be obligated or expended to carry out, on or after the date of the enactment of this Act, a test of the Space Defense System (anti-satellite weapon) against an object in space until the President certifies to Congress that the Soviet Union has conducted, after the date of the enactment of this Act, a test against an object in space of a dedicated anti-satellite weapon.

(b) Expiration. The prohibition in subsection (a) expires on October 1, 1988.

Mr. KERRY. Mr. President, today on behalf of myself, Senators CHAFEE, SIMON, HATFIELD, STAFFORD, JOHNSTON, PELL, LEAHY, CRANSTON, MITCHELL, PROXMIER, METZENBAUM, RIEGLE, KENNEDY, BINGAMAN, DODD, BURDICK, HARKIN, MATSUNAGA, ADAMS, BUMPERS, SARBANES, WIRTH, CONRAD, MIKULSKI, SANFORD, GORE, and DASCHLE, I have sent to the desk an amendment to continue the current moratorium by the United States on the testing of our antisatellite weapon against an object in space, that moratorium to continue through fiscal year 1988, so long as the Soviet Union does not conduct such a test.

What this amendment seeks to do, Mr. President, is to maintain the status quo. It seeks to continue existing law which has been in effect for 2 years now to place a moratorium on such tests. I might add that the House has already passed similar legislation this year and it is part of the House defense authorization bill.

Mr. President, in recent years the Congress has generally accepted the core proposition of this amendment that retaining the mutual moratorium on Asat testing by the United States and the Soviets is the best way we can protect United States satellites while at the same time continuing arms negotiations in an effort to reach a final and binding mutual accord. Today, Mr. President, as we debate here, neither side, neither the Soviet Union nor the United States, has a dedicated antisatellite weapon capable of attacking the high-altitude satellites of another country. While the Soviets do have a limited antisatellite capability against low-altitude U.S. satellites through what is called their coorbital system. That system is one which the U.S. Air Force Chief of Staff has told Congress "isn't very credible."

The Soviets, like the United States, have other systems with residual antisatellite capability but which they have never tested against a satellite or in an antisatellite mode. The Soviet antisatellite system has not been tested since 1982, and there is not even an assertion by an opponent of this amendment that there has been such a test.

The question which this amendment placed before the Senate is whether or not maintaining the status quo is the best way to give arms negotiators the opportunity to be able to better protect U.S. satellite capacity and to give the opportunity to our negotiators to be able to come to an agreement.

In the words of former U.S. Air Force Chief of Staff, General Gabriel,

I would rather that both sides not have the capability to go into geosynchronous (orbit) with an ASAT. In fact, I would like to be able to agree with the Soviets that we not have any ASAT's if we could verify it properly. Because we are an open society, we need our space capabilities more than they do.

That is the former Chief of Staff of the U.S. Air Force speaking.

U.S. satellites are our eyes and ears. These satellites are essential in the process of watching what the Soviet Union is doing, of photographing, of listening, and all of the various covert capacities of satellites. It is precisely that capacity which gives us the ability to be able to determine whether or not the Soviet Union is complying with arms control agreements.

Satellites are expensive, Mr. President. We know that. And they are inherently vulnerable because of their known trajectories, their predictability as they orbit. We know exactly where they are. We know exactly where they will be and when they are targetable.

The Soviet Asat under the worst case assumptions, Mr. President, puts at risk about 20 of our lower altitude satellites, and that is a legitimate military concern. But there are several techniques available to us which we are not exploring as fully as we could right now to lessen or eliminate that risk to some 20 satellites, and these techniques do not include testing a U.S. Asat. This year the Air Force, ironically, despite that capability, is requesting only \$3.3 million in order to examine those kinds of techniques that might be available to us to harden satellites or to put up reactive shields or shutters, decoys, to create maneuvering capacity for satellites, electronic countermeasures, and other similar approaches. By contrast, they have sought more than \$400 million in order to pursue the Antisatellite Program. It is precisely these kinds of measures, the hiding, deception, hardening, electronic countermeasures, that we ought to be pursuing to protect the satellites which are vital to the security of the United States.

It seems to me that the \$400 million requested by the Air Force and the \$237 million agreed upon for Asat is simply not money well spent. And we are sitting here trying to decide to the best of our ability how to spend with a very, very difficult set of choices for money that is simply not available.

Moving ahead with Asat, Mr. President, carries with it serious risks for our own national security as well as dispenses money in ways that I think the Congress could find 100 more worthwhile alternatives to better spend it on. The real threat to the United States security, Mr. President, is not the current limited system of the Soviet Union. It is the real threat that if we go ahead and build that system we will be placing our own satellites at ultimate risk because the result of our development of a system will be the inevitable need of the Soviet Union to build a like system. Once they have developed a system, we have taken our own satellites which are currently impregnable and placed them at risk to the Soviet response.

Given the fact that our submarine deterrent is dependent on our command and control, given the fact that our national technical means of verification is best defined in satellite technology, to place both of those interests at risk to the Soviet development of a system they now do not have because we decide to make this move would be foolhardy, shortsighted, and once again to shoot ourselves in our own foot.

I only have to point back, Mr. President, to the decision we made on MIRV missiles in the 1960's which we thought was the way in which we would deter the Soviet Union and close the window of vulnerability. What happened? The Soviet Union built bigger missiles with more warheads, and all of a sudden the United States had turned the tables on itself and we were more threatened.

The real threat to the U.S. security, Mr. President, is to create this technology that does not exist today, to open the window on weapons in space, and to say to the world we are willing to put our own verification technology, and command and control technology at risk.

Mr. SIMON. Will my colleague yield?

Mr. KERRY. I am delighted to yield to my colleague without losing my right to the floor.

Mr. SIMON. Mr. President, I commend my colleague for his statement. I ask him if it does not go even beyond what he has just suggested. Just in the example of MIRV, for example, we do it and then they do it. Here we escalate but we add I think another factor; that is, the factor of fear. We really take the cap off the arms race because

we lose that verification possibility. Is that an incorrect assumption?

Mr. KERRY. I think my colleague from Illinois has put his finger, as he always does, right on the essential point. That is precisely it. It opens up the window to the future and denies us an opportunity that we ought to be availing ourselves right now.

Mr. SIMON. I thank my colleague. I commend him for his leadership on this.

Mr. KERRY. I thank the distinguished Senator from Illinois for his comment.

Mr. President, the Arms Control and Disarmament Agency itself reported to Congress in 1983 saying:

An ASAT competition would pose a considerable threat to critical satellites on both sides creating a situation in which neither side could rely with confidence on unprotected space systems.

As Dr. Kurt Gottfried and Richard Lebow have concluded in a 1985 study of Asat weapons:

Asat's possess a considerably greater capacity for transforming a crisis into a war, and for enlarging wars, than they do for assisting in military missions or enhancing deterrence.

Proponents of developing the United States antisatellite weapons system have argued that it is essential for us to do it because the Soviets have a system.

Mr. President, I do not intend to take a great length of time here to go through the Soviet system. We have done that before. But I do not want to remind people that while it is true the Soviets have a system, it is by everybody's judgment a rudimentary system, a system which most people feel barely works if it works at all. And clearly the United States should not be making choices about its weapon systems and particularly its larger deterrent strategy based solely on the fact that the Soviet Union has one of something, particularly when there may be other alternatives available to us which we can employ in order to counter whatever it is that the Soviet Union has.

I might quote the CIA Assistant Director Robert Gates, who told the Senate Armed Services Committee last year:

While the Soviets seek to be able to deny enemy use of space in wartime, current Soviet antisatellite capabilities are limited and fall short of meeting this apparent requirement.

It is true, I think, that one could gain some marginal momentary advantage if you had such a system. But obviously Mr. President, if both sides have such a system the longer term disadvantage to the United States in any war-fighting situation should be apparent for anybody to see.

Mr. President, the Soviet system was introduced 19 years ago. It is lifted into orbit on top of an SS-9 liquid

booster rocket. It takes about 6 hours between one shooting and another shooting. And all tests that we have verified to date have come out of one location in the Soviet Union, the one location that we know they have an antisatellite capability.

In order to hit one of our satellites the Soviet Union has to put its weapon into orbit. It can only shoot its weapon between the declination of 62 and 65 degrees, only when a satellite is at that particular latitude of the launch site in the Soviet Union. That happens to certain satellites only once every 2 days. Then it has to go into orbit, circle the Earth, meet its target, circle with its target and finally blow up beside its target. That takes hours during which time we could maneuver, we could jam, we could use electronic countermeasures. We would know exactly what is happening.

Most importantly, since it takes another 6 hours before they can do it again, the threat to other satellites is nonexistent because we can respond in that period of 6 hours' time, through a variety of means.

There are other flaws in the Soviet system. It requires a massive booster rocket that can be launched only from that site or a number of small facilities. It is very difficult to fire massive liquid fuel boosters in rapid succession, Mr. President. Col. Jim Reynolds, who was the former manager of Navstar and satellite communications for the Air Force said. That the Soviet Asat is "so weak and cumbersome that I think we literally have to let them get us in order for it to work."

Mr. President, as was reported in a recent book on verification published by the American Academy of Advancement of Science, the testing of any new Soviet Asat "would be relatively easy to detect with U.S. national technical means."

So what we are really talking about in this amendment is whether or not we are willing to leave in place the existing law and the status quo. There is nothing unilateral in this move. We are not doing something that the Soviet Union has not done. We are not giving up something on our own unaware of whether or not the Soviet Union is willing to follow. We are doing precisely what we have done for the last 2 years, and we are doing precisely what the Soviet Union has done since 1982.

I think, Mr. President, that we should recognize the danger to our own satellites if we proceed forward at this moment in time to create a whole new technology, one that could be launched from any F-15. The United States vehicle is such that if we develop a system that could be fired from under the wing of an F-15, every F-15 in our entire arsenal becomes from the Soviet point of view a potential antisatellite weapon and platform. Clearly,

that is the kind of a threat to which the Soviet Union would have no choice but to immediately respond.

There is another reason, Mr. President. It is not obvious to everybody. Some people do not take it that seriously yet. But I think it warrants our consideration. It is separate from arms control. It is separate from being an example to demonstrate restraint. It is separate from the technical problems associated with our own program, and it is separate from the technical problems associated with the Soviet program. That is that in the past few years the few antisatellite tests that we have run have been a major contributor to the growing hazard of collision in space.

Each Asat test in which the interceptor explodes or collides with its target produces about 100 large fragments of orbiting debris. The single U.S. Asat test in September 1985 was responsible for a 63-percent increase in radar-tracked objects in orbit during the last 6 months of 1985. It is very easy to understand that when the increase of debris starts orbiting the likelihood of debris colliding with a functioning satellite increases.

NASA studies published in 1978 indicated that the proposed U.S. space station would require more shielding from this manmade debris hazard in space than from the natural hazard of a collision with meteors.

One major problem with the debris in space is its long life. Of 98 radar trackable fragments produced by the first Soviet Asat test almost 18 years ago, 61 were still in orbit as of March 31, 1986, and being tracked.

The U.S. Asat test in September 1985 put 199 new trackable objects in space. Together, United States and Soviet antisatellite tests are now responsible for 915 Asat fragments still in orbit or about 5.5 percent of the total objects in orbit in space since the beginning of the space age.

Mr. President, when there are only a few fragments in orbit the chances of collision may be small. But if we continue to increase testing and increase the number of those fragments, we increase the possibility for catastrophic collision with satellites and the disruption that can interrupt other programs that we care about.

On November 13, 1986, a European Ariane booster exploded in space under circumstances which a number of scientists say indicates a collision with debris of the exact kind produced by the Asat test. Besides the Ariane, scientists believe that space debris may have destroyed the United States satellite NOAF-8, the polar orbiting satellite lost in early January 1986, as well as the Soviet Cosmos 954 and Cosmos 1275 satellites in earlier years.

In addition, a number of other satellites including the space shuttle have

actually been hit and damaged by smaller orbiting objects.

So, Mr. President, those are the choices. It seems to me rational on each level—rational in terms of arms control, rational in terms of avoiding collisions in space, rational in terms of where we find ourselves now in our current technologies, rational in terms of the strategic interests of the United States in not putting our own satellites at risk, and rational in terms of leaving open the window for the arms control negotiators to hopefully keep us out of space and space weaponry.

The last comment I have is to remind my colleagues again, this amendment is not new. It is another attempt to seek Senate approval for a moratorium now in place, but which this body has not fully accepted. Last year, the House passed it and we receded to the House.

It is my hope that this year the Senate will make the statement that we believe this is an important step and an important breather for the United States.

Mr. President, I think we have additional time, but I reserve such time as is necessary.

THE PRESIDING OFFICER (Mr. ADAMS). Who yields time?

Mr. EXON. Mr. President, I yield such time as he may require to the Senator from South Carolina.

Mr. THURMOND. I thank the Senator.

Mr. President, I rise in opposition to the amendment of the Senator from Massachusetts to prohibit funds to the test the space defense system [Asat] against objects in space.

This amendment fails to take into account what I believe are two important reasons to proceed with Asat testing.

The first of these is to deter attacks on our critical space systems. For more than a decade, the Soviets have had the world's only operational Asat system. It has been tested and proven, and the Soviets continue to test the boosters on which it would be launched. Failure to provide a deterrent in kind to this operational Soviet system would perpetuate the existing destabilizing situation in which the Soviet Union has an uncontested capability to attack our space systems, secure in the knowledge that their systems are not vulnerable to counterattack.

The second reason to proceed with Asat testing has to do with improving the effectiveness of our conventional forces to deter conflict, and if deterrence fails, to prevail. The Soviets have maintained satellites in orbit, the purpose of which is to provide targeting information against our terrestrial forces. We would not allow an enemy to exercise such leverage in putting our forces at risk in any other theater of warfare. It simply escapes me why

some are willing to allow the Soviets to threaten our land and maritime forces from space with impunity.

Mr. President, the 2-year moratorium on Asat testing has delayed the development of the program by at least 2 years, and has increased costs. In the current budget environment, we cannot afford to continue to delay the program.

The Armed Services Committee has received testimony from military witnesses who indicated the importance that they attached to the space defense system. President Reagan indicated in a statement on May 11, 1987, the importance of the Asat Program, and I ask unanimous consent that his entire statement be printed in the RECORD following my statement.

THE PRESIDING OFFICER. Without objection, it is so ordered.

[See exhibit 1.]

Mr. THURMOND. Mr. President, the Senate tabled a similar amendment 55 to 43 last year. The House supported moratorium prevailed in conference, not on its merits, but because it was one of five House provisions that undermined arms control prospects and our national security and Senate conferees could not prevail in eliminating all of them.

Mr. President, I hope this amendment will fail. It is not in the best interests of the people of the United States. I urge my colleagues to join me in opposing the Kerry amendment.

EXHIBIT 1

THE U.S. ANTI-SATELLITE (ASAT) PROGRAM A KEY ELEMENT IN THE NATIONAL STRATEGY OF DETERRENCE

PRESIDENTIAL FOREWORD

Five years ago, in July 1982, I announced a national space policy which was to set the direction of U.S. efforts in space for the next decade. A key element of this policy was to strengthen the security of the United States by developing "an anti-satellite (ASAT) capability, with operational deployment as soon as possible."

Unfortunately, over the last two years, we have experienced major Congressional setbacks in the fielding of our ASAT capability. I firmly believe that these actions have undermined our national security and therefore, in February 1987, I signed a new directive indicating my continued commitment to a U.S. ASAT program. I supported the Department of Defense's programmatic recommendations for the U.S. ASAT program, as well as the need to seek adequate funding and relief from the Congressional moratorium on testing of the non-nuclear Miniature Vehicle (MV ASAT) against objects in space.

For more than a decade, the Soviets have had the world's only operational ASAT system. Failure to provide a deterrent in kind to the operational Soviet system would perpetuate the existing destabilizing situation in which the Soviet Union has an uncontested capability to attack our space systems, secure in the knowledge that their systems are not vulnerable to counterattack.

For several years now, the Soviets have maintained satellites in orbit, the purpose of which is to provide targeting information

against our armed forces. Failure to provide a non-Nuclear capability to counter Soviet targeting satellites that directly support hostile forces against our land, sea, and air forces undercuts stability and our ability to deter both conventional and nuclear conflicts.

The space threat posed by the Soviet Union is growing more serious as time goes on. I cannot let this unilateral Soviet advantage continue unaddressed. As President and Commander-in-Chief of our military forces, I am personally committed to developing an operational U.S. ASAT which will help preserve the security of the nation and our men and women in uniform. I am eager to work with the Congress to restore bipartisan support for the U.S. ASAT program in order to ensure that the testing moratorium is not reimposed and that proper funding is provided in Fiscal Year 1988 to enable this vital program to proceed.

RONALD REAGAN.

THE WHITE HOUSE, May 11, 1987.

THE U.S. ANTI-SATELLITE (ASAT) PROGRAM A KEY ELEMENT IN THE NATIONAL STRATEGY OF DETERRENCE

"The United States will proceed with development of an anti-satellite (ASAT) capability, with operational deployment as a goal. The primary purposes of a United States ASAT capability are to deter threats to space systems of the United States and its Allies, and within such limits imposed by international law, to deny any adversary the use of space-based systems that provide support to hostile military forces."—President Ronald Reagan, National Space Policy, July 1982.

Anti-Satellite Systems

In July 1982, President Reagan called for a prudent, measured response to the Soviet military space threat in order to protect U.S. and Allied security interests. The two aspects of the Soviet space program of greatest concern in 1982, remain today—their ability to destroy U.S. satellites and to use satellites for targeting of U.S. and Allied air, land and sea forces. While the United States abandoned our first anti-satellite (ASAT) program in the early 1970s, the Soviets continued their program and now maintain the world's only operational ASAT system. The Soviets have also developed reconnaissance satellites which provide targeting data that can be used to direct attacks against U.S. and Allied surface fleets and land-based forces. In view of the importance of our space assets and the continued need to project power to deter war and control escalation during conflict, it is essential that the United States develop and deploy an operational ASAT to deter the Soviets from exploiting their present ASAT and space-based targeting capabilities.

The Soviet Military Space Threat

The Soviet Union has a large and continually expanding military space program. We believe Soviet military space assets serve two basic functions: 1) to support terrestrial operations; and 2) to wage war in outer space. The attainment and maintenance of military superiority in outer space is the essential condition for the performance of both functions. According to U.S. intelligence assessment of Soviet military space doctrine:

The Soviet Armed Forces shall be provided with all resources necessary to attain military superiority in outer space sufficient both to deny the use of outer space to other states and to assure maximum space-based

military support for Soviet offensive and defensive combat operations on land, at sea, in air, and in outer space.

In the Soviet view, military superiority in outer space is achieved, in the first instance, by the use of ASAT systems to degrade or destroy the space-based command, control, communications and intelligence systems of an adversary and in the second instance, by successful use of space to support military operations including the use of satellites to target an opponent's forces.

The Soviet Union is, therefore, fully aware of both the strategic importance to the United States, of military satellites and of the severe impact of their loss upon the U.S. capability to alert and direct our military forces in the event of a war. This knowledge has prompted the Soviets to develop their ASAT capability.

The Soviet ASAT system has been operational for well over a decade and has demonstrated an effective capability to destroy low-altitude satellites where many critical U.S. space systems orbit. In the past, the Soviets regularly conducted ASAT tests to practice satellite interception and to refine their system. Their present, self-imposed moratorium on testing is possible only because they have a proven and deployed ASAT, and this moratorium has not eroded their operational proficiency. As long as it serves their political and military purposes by tying our hands, the Soviets are likely to refrain from further testing. However, we believe that they have additional ASAT weapons and their associated boosters available, and we are certain that they can resume testing to improve their system or employ it operationally at any time.

The Soviets also have ASAT capabilities in some systems designed for other purposes. For example, the nuclear-armed GALOSH ABM interceptor deployed around Moscow has an inherent ASAT capability against low-altitude satellites. Two high-powered lasers at Sary-Shagan may be capable of damaging sensitive components on-board satellites. Although weather and atmospheric beam dispersion may limit the use of ground-based laser ASAT's, such systems have the major advantage of being able to fire repeatedly and therefore to disable many satellites over time.

During the next decade, the Soviets are likely to retain their current ASAT-capable systems while moving aggressively ahead in developing and deploying new, more advanced ASAT systems. Their large-scale efforts in laser, particle beam, radio frequency and kinetic energy technologies may provide them with significant ASAT capabilities.

There is a growing and destabilizing threat posed by present and projected Soviet military satellites whose sole purpose is to help defeat U.S. and Allied terrestrial forces in the event of conflict. These systems include ocean reconnaissance satellites which use radar and electronic intelligence to provide real-time targeting data to Soviet weapons platforms which can quickly attack U.S. and Allied surface fleets. They also include photographic and electronic intelligence satellites which provide data and other information useful in supporting Soviet land forces.

In view of the fundamental importance of U.S. and Allied force projection in crisis and wartime, including the need for Allied reinforcement by sea, the protection of U.S. and Allied forces against such targeting is critical. As Soviet military space technology improves, the capabilities of Soviet targeting satellites are being enhanced and therefore

will present a greater threat in time of conflict, conventional or nuclear, to our national security and that of our Allies.

Strengthening Deterrence

The fundamental purpose of our national security policies is to maintain and strengthen deterrence—deterrence for both conventional and nuclear conflict. Continued, unilateral ASAT limitations on the United States undermine deterrence.

Since the Soviet Union has an operational capability to destroy satellites while the United States does not, the current situation is destabilizing. An operational U.S. ASAT would increase stability by providing a true deterrent-in-kind to a potential Soviet ASAT use. Past military exercises have revealed that in absence of a U.S. ASAT capability we have two choices if the Soviets attack and destroy one of our satellites—do little or nothing or take some other military action.

The first case could lead to serious military losses, and our inaction might invite further attacks and show a lack of resolve. In the second case, our retaliatory response could be interpreted by the Soviets as an escalation of the conflict. By having an operational ASAT, we would be able to provide an unambiguous response in-kind, thereby avoiding a serious military disadvantage without the risk of unintentional escalation.

In addition to the need to deter Soviet attacks on our space systems, the lack of a U.S. ASAT capability would afford a sanctuary to existing Soviet satellites designed to target U.S. naval and land-based conventional forces. The absence of a U.S. ASAT capability to put at risk Soviet satellites could be seen by the Soviets as a substantial factor enhancing their ability to attack U.S. and allied forces. On the other hand, a U.S. ASAT capability would contribute to deterrence of conventional conflict by generating Soviet uncertainty over their ability to employ satellites to target U.S. and allied forces. Thus, the development of an ASAT capability is essential to our ability to deter conventional conflict.

The United States must take the necessary steps to avert a situation in which the Soviet Union has full freedom during a crisis or conflict to target our assets from space while the United States has no capability directly to attack the Soviet satellites providing targeting information. We would never allow a similar situation to exist in the atmosphere, on land, or at sea.

The continued development of a credible ASAT system is an integral part of the steps needed to avert such a situation. An operational U.S. ASAT will provide us with a capability to protect our forces in the field that is urgently needed to support our global commitments and strategy.

Utility of a U.S. ASAT Capability

The U.S. ASAT system now under development consists of a miniature vehicle warhead mounted on a modified Short Range Attack Missile (SRAM) booster as the lower stage and a modified Altair II rocket motor as the upper stage. This is carried aloft and launched from a specially modified F-15 aircraft. The ASAT mission will involve the F-15 flying to a launch point identified by mission control and launching the inertially guided missile toward a rendezvous area. After the upper stage burns out, the miniature vehicle separates and is guided by an on-board sensor to the target. The system is planned for deployment at Langley Air Force Base, Virginia.

The U.S. ASAT program is focused explicitly on those Soviet satellites which most

threaten U.S. and Allied terrestrial interests in times of crisis or limited war. All of those threatening Soviet satellites operate at low altitude. Without low altitude satellites, Soviet space-based targeting data would be significantly degraded. By reducing the likelihood that a Soviet attack using those satellites would be successful, deterrence would be enhanced.

At the President's request in the fall of 1986, the Secretary of Defense completed a comprehensive study of the U.S. ASAT program. The current restructured program implements the Secretary's recommendations to the President of how best to continue the ASAT development program in light of two years of Congressionally-imposed funding and testing constraints.

The study found the present air-launched MV ASAT system to be the only viable path to providing a near-term counter to the Soviet threat. The Department of Defense (DOD) plans to continue the present program by conducting three tests against Instrumented Test Vehicles in space during 1988, restarting the production verification program in 1988, and requesting advanced production funds in 1988.

The study also determined that with recent improvements in Soviet space systems which threaten U.S. and Allied forces, it is prudent for the United States to research alternative ASAT systems that could ultimately complement the F-15 air-launched MV system. To that end, the DOD will accelerate an ongoing study during the remainder of the fiscal year to select the best method for enhancing the altitude capability of the MV-ASAT within the low-earth orbit regime by changing the system which boosts the MV-ASAT into space. The study will compare the cost and mission effectiveness of improving the thrust capability of the F-15 air-launched lower-stage booster, versus developing a ground-launched system using an available lower-stage booster. Additionally, the study is investigating the feasibility of ground-based laser technologies for ASAT application.

U.S. Space Policy and Arms Control

The United States is committed to the exploration and use of space by all nations for peaceful purposes and for the benefit of mankind. Among the activities conducted by the United States in space is the pursuit of fundamental national security objectives. Arms control arrangements for space would serve these objectives if they contributed to our overall deterrence posture and reduced the risk of conflict.

With those objectives in mind, President Reagan articulated the national space policy of the United States on July 4, 1982, and reaffirmed in his March 31, 1984, Report to Congress of U.S. Policy on ASAT Arms Control:

The United States will consider verifiable and equitable arms control measures that would ban or otherwise limit testing and deployment of specific weapon systems, should those measures be compatible with United States national security.

Guided by these criteria, the United States has studied a range of possibilities for ASAT arms control. We have been unable, to date, to identify a specific ASAT proposal which meets the Congressionally-mandated requirements of verifiability and consistency with U.S. national security.

ASAT arms control involves a number of difficulties, including the problem of defining an ASAT weapon for arms control purposes. ASAT weapons could include, among

other things, interceptors as well as space systems not designed as weapons which have inherent ASAT capabilities that are difficult to distinguish from those of weapons. These definitional difficulties pose serious problems for assessing compliance with treaty limits.

Verification is crucial because satellites that serve U.S. and Allied security are few in number and therefore cheating, even on a small scale, could pose a grave risk. Yet verification of an ASAT agreement would be very difficult, or, for certain limitations, impossible. Furthermore, ASAT arms control verification measures that required any form of access to U.S. space systems might create an unacceptable risk of compromising the protection of information regarding certain U.S. space systems associated with national security.

Arms control measures banning ASAT activities would not ensure survivability of other elements in a space system. Ground stations, launch facilities and communications links may, for example, in some case be more vulnerable than the satellites themselves. There is also the risk that a country could gain unilateral advantage through breakout from an agreement and obtain a head start in building or deploying a type of weapon which has been banned or severely limited. Finally, certain current and projected Soviet space satellites, although not weapons themselves, are designed to provide radar and electronically derived targeting data to Soviet weapon platforms. We must be able to counter these satellites which could enhance Soviet capabilities for attacking U.S. and Allied surface fleets and land forces.

The United States is presently involved in negotiations in Geneva on the whole range of nuclear and space issues. At these negotiations, we are seeking to explore with the Soviet Union the merits of a strategic relationship characterized by a greater reliance on defenses. We are seriously exploring with the Soviet Union arms reduction agreements intended to prevent an arms race in space while facilitating a possible transition to a more effective deterrence posture based on the increasing contribution of strategic defenses.

The Congressional ASAT Test Moratorium

For two years now the Congress has denied us the ability to test our U.S. miniature vehicle ASAT system against targets in space. As in any weapon development program, we must conduct extensive and realistic testing to demonstrate to ourselves and our adversaries that we have a real military capability. To date, we have conducted just one test of the MV ASAT against a target in space—which was successful—and several tests against a point in space. To be confident that we have an effective system, we must be able to conduct additional tests of the MV ASAT against objects in space.

The Congress demands realistic testing of other military systems; it should not lower its standards in the case of this important program. Any extension of the testing moratorium against objects in space will prevent us from achieving an ASAT capability comparable to that possessed by the Soviet Union, with all the attendant risks to U.S. national security.

Conclusion

This is the year of decision for our U.S. ASAT Program. We cannot disregard our responsibilities to our people and to our Armed Forces by ignoring the growing threat created by the present Soviet monopoly on ASAT systems.

We must work together as Americans to find ways to ensure our national interests are protected in space as well as on earth. Our non-nuclear miniature vehicle ASAT Program is the only near-term response to the growing Soviet threat in space. Our U.S. ASAT must be tested and deployed to protect our national security and maintain deterrence.

This is a crucial time when all members of Congress should stand together in bipartisan support of our programs as our representatives meet with the Soviets in Geneva. We cannot and must not undercut our chances for the long-term benefits of peace through arms reductions by unilaterally restricting or cancelling U.S. programs, such as the ASAT Program, which are so essential to our national security.

The PRESIDING OFFICER. Who yields time?

Mr. HATFIELD. Mr. President, will the Senator from Massachusetts yield me 5 minutes?

Mr. KERRY. I yield 5 minutes to the Senator from Oregon.

Mr. HATFIELD. I thank the Senator for yielding.

Mr. President, I am pleased to join my colleagues as a cosponsor of this amendment and offer my praise to them for their consistent efforts to make sure that this important arms control measure remains in force.

Mr. President, a moratorium on the testing of anti-satellite weapons has been in force for 2 years. I could spend hours explaining the justification for the moratorium but what it really comes down to is this: The moratorium on Asat testing just plain makes good sense.

For the life of me, I cannot figure out what it is about this moratorium that worries its opponents.

Are they worried that the Soviets will test while the United States cannot? The amendment includes the condition: "So long as the Soviet Union does not conduct such a test."

Are they worried that the Soviets are ahead? The Soviets current system is so crude that it is capable only of destroying satellites at altitudes lower than most of our satellites. If that.

Or are they worried that, without U.S. testing, the incentive for the Soviets to negotiate will be gone? The Soviets have not conducted a test since 1982, Mr. President, and the Soviets—not the United States—proposed negotiations on a treaty prohibiting Asat testing.

Those excuses just do not hold up, Mr. President.

The only thing the Asat moratorium does is offer the promise of a bilateral and verifiable arms control agreement. If this truly is the dawning of a new era of progress on arms control—as the President would have us believe—what could possibly be wrong with keeping that promise alive?

The PRESIDING OFFICER. Who yields time?

Mr. KERRY. Mr. President, I am happy to yield back such time as we

have on this side, if there are no further requests.

The PRESIDING OFFICER. The Senator from Massachusetts has stated that he is prepared to yield back his time.

Mr. KERRY. Mr. President, I ask for the yeas and nays.

The PRESIDING OFFICER. Is there a sufficient second?

There is not a sufficient second.

The yeas and nays were not ordered.

The PRESIDING OFFICER. The Senator from Nebraska.

Mr. EXON. There is no intention for those of us on this side to yield back the remainder of the time when there are many speakers here to be heard on this.

At the present time, from our time I would like to yield 2 minutes to the Senator from North Carolina who I understand wishes to make a request of the Senator from Massachusetts. Is that correct?

Mr. HELMS. That is correct.

Mr. KERRY. Before he does, Mr. President, I said I will reserve. I would yield back the time if there are no further speakers generally. I reclaim back the time. I am happy to answer the question.

The PRESIDING OFFICER. The Senator has his time. It has not been yielded back. So the Senator from Massachusetts has remaining 36 minutes.

The Senator from Nebraska was recognized and therefore, the Chair is taking the position the Senator from Nebraska is in opposition and, therefore, controls that time.

The Senator from Nebraska has yielded to the Senator from North Carolina 2 minutes.

The Senator from North Carolina is recognized.

Mr. HELMS. Mr. President, I thank the Chair and, of course, I thank the able Senator from Nebraska. I hope I can accomplish what I seek to accomplish in 2 minutes. I will give it the old college try.

Mr. President, a parliamentary inquiry, and I think I know the answer to it.

The PRESIDING OFFICER. The Senator will state it.

Mr. HELMS. Under the unanimous-consent agreement, no second-degree amendments are in order; is that correct?

The PRESIDING OFFICER. The Senator is correct relative to the amendment specified in the agreement.

Mr. HELMS. I understand.

Now, I hope I am correct in my understanding that the yeas and nays were not ordered on this amendment, on the Kerry amendment, as yet.

The PRESIDING OFFICER. They have not been ordered as yet.

Mr. HELMS. I thank the Chair.

Mr. President, I am going to send an amendment to the desk knowing that it is out of order and ask that it be stated because I want the Senator from Massachusetts to consider modifying his amendment with the proposed amendment, if the Chair will do me the courtesy of allowing the clerk to read the proposed amendment.

The PRESIDING OFFICER. The clerk will read what has been sent by the Senator, but it is not in the form of an amendment because a point of order will lie against that so the Chair does not wish to rule on that. But the clerk may read what the Senator sent based on the Senator's time.

Mr. HELMS. That is correct.

The PRESIDING OFFICER. The clerk will read based on the time.

Mr. HELMS. I ask the page to take a copy of it to the distinguished Senator from Massachusetts.

Mr. KERRY. Mr. President, a point of inquiry. Would this be better carried out if we either put in a momentary quorum call or if the Senator would want to propound it to me in a question, either way.

Mr. HELMS. I think that is fine.

The PRESIDING OFFICER. The Senator from Nebraska.

Mr. EXON. I am going to object to the quorum call. I have been objecting to a quorum call since I came in at 9 o'clock this morning. I want to move along.

I have read the amendment and the suggested change that the Senator from North Carolina is going to request as I understand it to be accepted by the Senator from Massachusetts.

I suspect that the Senator from Massachusetts is not going to agree to accept this. If he does agree to accept it, it can be done very simply but I think he will not. If he will not that will dispose of this matter very quickly and we can get on with the business at hand.

I will simply say that I am not going to agree to the calling of a quorum call because that could be time charged to someone.

Mr. HELMS. Mr. President, will the Senator yield to me?

Mr. EXON. I am glad to yield.

The PRESIDING OFFICER. The Senator from Nebraska has yielded.

Mr. EXON. I yield 1 minute to the Senator from North Carolina.

Mr. HELMS. I can understand why he wants no quorum call, and time will be charged equally if there is no quorum call.

Meanwhile, may we have the clerk read the amendment?

The PRESIDING OFFICER. The Senator has made the request.

Mr. HELMS. I thank the Chair.

The PRESIDING OFFICER. The clerk will read and the Senator from Massachusetts can respond. The time is controlled by the Senator from Nebraska at this moment.

The legislative clerk read as follows:

Add at the end of the Kerry amendment the following new section.

"Sec. . It is the sense of the Senate that the Senate ought not to consent to the ratification of any treaty with the U.S.S.R. to limit intermediate nuclear forces unless any such proposed treaty is unquestionably verifiable nor should any such treaty be signed unless and until the President has certified to Congress that the U.S.S.R. is no longer violating the Anti-Ballistic Missile Treaty of 1972."

The PRESIDING OFFICER. The Senator has used the 1 minute yielded. The Senator from Nebraska.

Mr. EXON. I yield another minute to the Senator from North Carolina.

Mr. HELMS. I can serve my purpose in 1 minute.

I ask my friend from Massachusetts if he will accept this modification.

Mr. KERRY. In its current form, I am unable to. I would be delighted to entertain a discussion. It is not possible to do that. I am happy to put in a quorum call against the time, usually, but I think this requires conversation which we cannot engage in at this point of time.

In its current wording and current form, the Senator from Massachusetts cannot accept it.

The PRESIDING OFFICER. The Senator from Nebraska.

Mr. EXON. Mr. President, the Senator from Nebraska is not going to yield the floor. I, therefore, claim my right to the floor.

The PRESIDING OFFICER. The Senator is recognized.

Mr. EXON. Does he have the floor?

The PRESIDING OFFICER. The Senator from Nebraska has the floor.

Mr. EXON. I will keep the floor the best as I can to protect us from lapsing back into quorum calls which has been the Achilles' heel of this organization for as long as I can remember.

While I am talking and others talking on this matter, if the Senator from Massachusetts and the Senator from North Carolina want to get together and discuss it, I suggest it has been done on the floor of the Senate before. I assume it will again.

Mr. President, the Senate Armed Services Committee discussed and debated the Air Force's Asat Program extensively during markup. I have not supported the moratorium on Asat testing in the past and I do not expect to support the current amendment. Yet, increasingly, I find that I am not attracted to either of the choices presented for voting on this amendment.

In the past, I have seen the continuation of the test program, at a limited annual rate, as important first, to respond to Soviet efforts in this area and, second to generate leverage on the Soviet Union to engage in meaningful negotiations on the limitation of antisatellite weapons. It is on this basis that I have supported continued testing of the Air Force's miniature

homing vehicle [MHV] Asat, because I think it is the only option available to us at this particular juncture, as imperfect as that program has been thus far. It is closer to deployment than any other Asat option currently in development, even though we have had only one full test against a satellite target, and tests have been prohibited by law as we all know, for the past several years. Essentially this has been done, Mr. President, because of the insistence of actions very similar to the amendment offered by the Senator from Massachusetts by the other body.

But the legislated prohibition on testing the MHV Asat has not limited progress in R&D on other more advanced and capable Asat options. Indeed, the strategic defense initiative is developing a panoply of Asat capabilities—or perhaps I should say, is developing a Pandora's box full of Asat capabilities. This occurs virtually automatically, I should add, by virtue of the fact that it is generally easier to destroy a large, relatively soft satellite traveling in a highly predictable orbit than it is to destroy a small, hardened reentry vehicle traveling on a suborbital path.

So we should be clear that if this amendment passed, it would not stop R&D on Asat's; it would only stop further R&D on the Air Force MHV Asat. Other Asat approaches, both interceptor missiles and directed energy concepts, will proceed. This means that the opportunity for negotiating some limitations on Asat capabilities is running out. It is running out on both sides, since the Soviet Union not only has an operational Asat interceptor but also an active Asat R&D Program and an active SDI Program of its own.

As I say, I have opposed previous Asat test bans both on strategic and arms control grounds.

Mr. KERRY. Will the Senator yield for a question?

Mr. EXON. I will just in a few moments. I would say to my friend from Massachusetts that the Senator from Nebraska patiently waited for the rather extended comments that the Senator from Massachusetts just made and if he would do likewise, I would very much appreciate it.

As I say, I have opposed previous Asat test bans both on strategic and arms control grounds. And, indeed, the Soviets have proposed to negotiate on Asat's. But the administration has continued to argue that it can find no Asat agreement—even a partial limitation—that would be in our national interest, and has refused to negotiate in Geneva on what limitations might be appropriate.

Frankly, that leaves me in a dilemma. I question whether the MHV Asat is worth pursuing in its own right. It is

expensive. Almost \$2.5 billion more would have to be spent to acquire only a few dozen interceptors that are range and altitude limited. I am simply not persuaded this program is worth pursuing, when we are developing far more capable systems under the SDI.

In my opinion, we could forgo further tests, simply collect the current test assets, and declare our own "Limited Asat capability" that would effectively offset the Soviets unimpressive and unreliable Asat interceptor.

Thus, I find myself wanting to cast a vote both against and for the position of the Senator from Massachusetts, but, unfortunately, the Senate does not like to have a procedure like that going on. And so I simply say, Mr. President, that this is one Senator, a member of the Armed Services Committee, who has looked into this in great detail. I will certainly remind the Senate and all of my colleagues that it is my position that we would like to have the measure left as it is in the armed services bill before us.

We will take this to conference. I do not know how high a priority item it will be with the Senate conferees. But we feel that it would be in the interest of the Senate's position to leave the measure as it is in the Armed Services Committee bill before us.

I am glad at this time now to yield, on his time, to my friend from Massachusetts for any questions that he might have.

The PRESIDING OFFICER. The Senator from Massachusetts is now recognized.

Mr. KERRY. Thank you, Mr. President.

Mr. President, I am going to forego my question, but I do want my distinguished friend to understand that I would be more than happy to be patient. I just thought occasionally in his dialog, in an effort to really engage in debate, that sometimes it is helpful when a point is being made to engage in that dialog at that time, and that was my purpose interrupting, not certainly to interrupt any train of thought.

At this point, Mr. President, I yield to my colleague from the State of Rhode Island, Senator CHAFEE.

Mr. HELMS. Mr. President, will the Senator yield?

Mr. KERRY. Mr. President, before I do that, if I can answer the distinguished Senator from North Carolina.

I have reviewed the language and I appreciate enormously his efforts to try to be helpful. While obviously I would like to have a vote on this, and I hope I might get it anyway, that particular amendment reaches, I think, beyond the scope of this and complicates it in terms of the interests of other Senators not here. In an effort to protect those interests, I would have to say I cannot accept it.

Mr. HELMS. Will the Senator yield 1 minute to me?

Mr. KERRY. I would yield, on the Senator from Nebraska's time, if I may.

The PRESIDING OFFICER. Does the Senator from Nebraska yield time?

Mr. EXON. As usual, the Senator from Nebraska is yielding time to try to accommodate some other people and I do not think the Senator from Massachusetts has a burning desire to carry on with the amendment of the Senator from North Carolina. But I would like to be courteous and therefore I will yield 1 more minute of our limited time, not on the time of the Senator from Massachusetts, but our time, to the Senator from North Carolina.

Mr. HELMS. The Senator is always unfailingly courteous and I thank him.

The PRESIDING OFFICER. The Senator from North Carolina is recognized for 1 minute.

Mr. HELMS. I thank the Chair.

I understand that the Senator from Massachusetts feels that he cannot accommodate the suggestion of the Senator from North Carolina by the modification, is that correct?

Mr. KERRY. That is correct.

Mr. HELMS. Mr. President, I thank the Senator. I will just observe that I intend to offer this amendment free-standing later on in the consideration of this bill. But I do thank him for considering it.

I thank the Senator from Nebraska for yielding to me.

The PRESIDING OFFICER. Does the Senator from Massachusetts wish to yield time?

Mr. KERRY. A point of parliamentary inquiry. How much time is remaining?

The PRESIDING OFFICER. The Senator from Massachusetts has 34 minutes and 16 seconds.

Mr. KERRY. Mr. President, I yield 10 minutes to the Senator from Rhode Island.

The PRESIDING OFFICER. The Senator from Rhode Island is recognized for 10 minutes.

Mr. CHAFEE. Thank you, Mr. President. I thank the Senator from Massachusetts. He and I are cosponsors to this amendment.

I would like to draw out some of the aspects of this amendment through a series of questions to the Senator from Massachusetts.

First of all, I ask the Senator from Massachusetts: Am I not correct that this is not a unilateral limitation on testing; in other words, this amendment that we have does not say the United States cannot test. It says we are not going to test as long as the Soviets do not test, but if the Soviets test, then all restrictions are off and the United States can go ahead. Am I not correct in that?

Mr. KERRY. The Senator is 100 percent correct.

Mr. CHAFEE. Let me also ask: Is it not true that antisatellite testing is easily verifiable? In other words, it is not one of these arcane subjects that is difficult to ascertain; that when somebody tests an antisatellite weapon, we know it?

Mr. KERRY. Mr. President, that is absolutely correct. It has been stated by all those who are part of the process of verification and, in fact, it is in all of the literature and nothing to the contrary asserts that we cannot easily verify all tests of antisatellite weaponry and there is no assertion to the contrary.

Mr. QUAYLE. Will the Senator yield?

Mr. CHAFEE. Could we just get through this brief series of questions? Mr. QUAYLE. On that point.

Mr. CHAFEE. If I could just finish. Well, go ahead; I am always glad to hear what the Senator from Indiana has to say.

The PRESIDING OFFICER. Does the Senator from Rhode Island yield?

Mr. CHAFEE. Briefly, because I am under a time limitation.

Mr. QUAYLE. Let me point out that the CIA and DIA would dispute that. They say you cannot, in fact, have any degree of confidence in verification of Asat capability. I wanted to point out what the CIA and DIA say.

The PRESIDING OFFICER. The Senator from Rhode Island has been yielded time. The Senator from Rhode Island has the floor.

Mr. CHAFEE. The next point, Mr. President, I would like to stress and see if the Senator from Massachusetts does not agree with me is that satellites are more important to the United States than they are to the Soviets. I know that this is a subjective judgment in some fashion, to some degree, but I think we would all agree that satellites are a very important part of the United States discovery arsenal and that they are far more important or more important than are the Soviet satellites to the Soviets. Do you not believe that that is a fair judgment?

Mr. KERRY. That is a fair judgment.

If I may add to the answer of my last question, maybe it will clarify for the Senator from Indiana. When I say we can verify and verify easily, we are talking about a dedicated system, a dedicated system being an F-15 homing vehicle or coorbiting system as in the Soviet Union.

I will yield additional time if necessary.

Maj. Gen. Thomas Brant, former member of the Joint Planning Staff for the Joint Chiefs of Staff, before the Senate Armed Services Committee last year said:

"We have an excellent capability to monitor the deployment of the Soviet Asat."

In a recent book put out by the American Academy for the Advancement of Science on the testing of any new Soviet antisatellite, "it would be relatively easy to detect with U.S. national technological means alone."

Mr. CHAFEE. That was testing?

Mr. KERRY. That was testing.

Mr. CHAFEE. The first quote, I think you referred to the word "deployment?"

Mr. KERRY. That is correct.

Mr. CHAFEE. But the second quote was testing?

Mr. KERRY. Testing.

Mr. CHAFEE. And I think it is testing that we are most concerned with here. Again, we move into the subjective field. But it is my understanding from the studies that I have done on this, and obviously somebody is going to rebut it, but it is my understanding that whatever the Soviets now have achieved in antisatellite techniques is what may be classified as relatively crude.

Would the Senator agree with that assessment?

Mr. KERRY. The Senator agrees with that and the Joint Chiefs have agreed with that and other scientific experts have agreed with exactly that assessment and used similar language.

Mr. CHAFEE. In other words, we are not lapsing into a situation where we are imposing a moratorium in which one runner is way ahead, in the race, of the other. Indeed I, from the studies I have done in this, it is my belief that the United States is ahead in capabilities of where the Soviets are.

I know the material has been distributed but it is my clear understanding that at worst it is a draw and at best the United States is considerably ahead, where we are now, in antisatellite weaponry.

Would the Senator agree with that?

Mr. KERRY. The Senator agrees with that, sir.

Mr. CHAFEE. It seems to me that this is a clearcut case where persisting in the moratorium that currently exists—and I would like to stress this. We are not venturing into some unknown territory here. This is an area we are in already. This is a moratorium on antisatellite testing. And we have all kinds of other expenses that it is worthwhile devoting our money to. I am particularly concerned about the conventional forces.

It seems to me to venture money into an area where we can be the losers, in other words we are more dependent upon satellites than the Soviets are; for both of us to get into an antisatellite race, in which, yes, we are ahead of them now in my judgment but they could well catch up; we have far more to lose than they do out of a moratorium.

So, the moratorium has worked successfully to date. I say continue it. If the Soviets break out of it, there is none of this business of coming up to Congress and having to get a resolution approved by both bodies—none of that.

If the President, under the Kerry amendment, finds that the Soviets are testing—and again I would like to question the Senator from Massachusetts, to stress that language particularly—if the President can certify to the Congress that the Soviets are testing, then what happens? Tell us.

Mr. KERRY. Mr. President, if the President so certifies, the President has the right to immediately, without any approval, denial, or process of the Congress, simply, upon certification, the President can order testing and we can proceed to test immediately upon the President's mere statement that they have tested.

Mr. CHAFEE. I think that is terribly important. In some of this legislation that comes forward there is a process: The President has to certify; it has to be approved by both bodies. That is clearly a limitation on the President and the armed services moving swiftly.

That is not so in this legislation. I think it is worth our while to continue this moratorium because we save money—but that is not the principal reason. The principal reason in my judgment is it is not in our interests to get into an antisatellite race with the Soviets with us far more dependent on satellites than the Soviets are.

Let us leave well enough alone. We have plenty of other areas for us to venture into and I would particularly, I say, stress to my colleagues the need to devote our money to the conventional forces. I want to thank the Senator for his time.

Mr. KERRY. I thank the Senator from Rhode Island for his important questions and for the points which he has focused on.

I yield myself, Mr. President, 3 minutes.

The PRESIDING OFFICER. The Senator from Massachusetts is recognized for 3 minutes.

Mr. KERRY. Mr. President, with respect to this issue of our ability to verify: this is a red herring that gets thrown up again and again and again by those who just want to proceed forward on this.

The administration itself tells us that in 20 tests of the Soviet ability, it has failed to intercept its target 11 times for an overall success rate of just 45 percent.

The administration tells us that its first-generation system failed 5 times out of 14 tests; its second-generation Asat failed every time it was tested.

First of all, that is not the testing of a reliable system. But far more importantly, Mr. President, how do they tell

us that if they cannot verify? If there are difficulties in verification?

I have a report here from the Brookings Institution. It paraphrases the military reports.

We have October 20, 1968; the target, K-248 Kosmos; inclination 62.25 degree; perigee, 475; apogee, 542; interceptor was the K-249. Then they have the inclinations, perigee, and apogee, attempted intercept altitude, 525 kilometers; mission type, revolutions around the Earth, 2; probability outcome, failure.

They go through every single test for every year, date, time, apogees, kilometers, and the outcome and the DIA and the CIA have never ever asserted that we do not know the outcome of Soviet ability to test, the co-orbital Asat and it has never been asserted to us that we do not know how to do it.

Mr. President, if we do not know how to verify this, then that is where the \$400 million ought to be going, not into the creation of a U.S. Asat.

I reserve the balance of my time.

The PRESIDING OFFICER. Who yields time? The Senator from Nebraska.

Mr. EXON. Mr. President, I yield such time as he might need to the Senator from Virginia.

The PRESIDING OFFICER. The Senator from Virginia is recognized.

Mr. WARNER. Mr. President, I thank the distinguished chairman of our strategic subcommittee and I must say that I say to my good friend from Massachusetts: here we are again. I think it is the third consecutive year.

I must say to him that I admire him for his tenacity and resolute effort to try each year to bring this issue to the attention of the Senate. But, once again, I stand in the strongest opposition and I hope that this body continues the 3 consecutive years of rejecting, not necessarily the amendment of the Senator from Massachusetts, but any effort to curtail this Asat Program.

We have had the Congress, as a matter of necessity resulting from the conference between the House and the Senate, to, from time to time, make some curtailments in this program and I hasten to point out as a consequence the program has suffered a costly and wasteful interruption of the testing program that goes contrary to every initiative the Congress has taken to improve DOD weapons acquisitions. So there has been a price paid.

But, Mr. President, let us review the reasons that this body has very wisely turned back these efforts during the course of debate over the past 3 years.

At the time this issue came before the Senate Armed Services Committee the distinguished chairman from Georgia, the distinguished chairman of the subcommittee, framed these

issues which are set forth in the report as to why the committee, once again, supports the program and urges Members to reject the amendment.

The committee has strongly supported the development and testing of the F-15 miniature homing vehicle. Support of the program has been warranted, both by the contribution of the vehicle to deterring actions by the Soviets that might impede, damage, or destroy our important space assets, and by the ability of the program to deny Soviet space-based capabilities that could threaten our terrestrial forces in the time of a confrontation.

On the basis of testimony received again this year before the committee, the committee is convinced of the continuing requirement for a viable anti-satellite program to satisfy both deterrence and requirements should there be a confrontation.

Mr. KERRY. Would the distinguished Senator yield for a question?

Mr. WARNER. I am happy to.

[Ms. MIKULSKI assumed the chair.]

Mr. KERRY. I want to say to the distinguished Senator he and I have enjoyed this go-around on an annual basis now. I hope to terminate it this year, but if I do not, we can look forward to it in the future. We have an anniversary each year. I enjoy the Senator's approach and appreciate his willingness to listen and engage in a dialog on it.

The Senator just said in quoting the report that the Soviets are developing an ability extraterrestrial to threaten our forces. It seems to me that no one knows better than the Senator that if they are not testing and we know they are not testing there is no ability to have any confidence in any system or actually deploy a system. So insofar as we are mutually, neither of us, testing, how is that extraterrestrial threat to our forces in fact being enhanced in a way that puts us at a disadvantage?

Mr. WARNER. Mr. President, I wonder if the Senator from Massachusetts would address the Rorsat Program from the context of what he just said.

Mr. KERRY. I am sorry?

Mr. WARNER. I want to make sure that we do not get into any classified areas. I am sure that the Senator is familiar with the Rorsat Program?

Mr. KERRY. I think the Senator is well aware that there are alternatives of either jamming or of spooking. Those are alternatives which we could be enhancing. It seems to me we could better deal with that kind of problem or threat by pursuing those alternatives rather than putting in something that ultimately has such a large capacity to threaten our overall interest, command and control, as well as verification.

The Senator will admit to me that as of today as we debate there is no

threat to our longer distance, higher orbit satellites. Is that correct?

Mr. WARNER. Mr. President, we are treading close to the line of classified information. I will say that that statement is reasonably correct.

But that does not mean that there is not active research going on in this area to penetrate those upper limits.

Also, as you know, they are working in these areas to address these lateral areas with blind satellites, deafened satellites.

Mr. KERRY. I am well aware of that and I support our researching into similar areas. This Senator in no way wants to disadvantage the United States at any point in time. We obviously ought to be researching and I support that research. But there is a vast difference between research and deployment and between research particularly—and I call this to the Senator's attention—that we can discuss on the floor.

I believe the Senator is aware of the classified report of the GAO on this particular program which came out last year.

Mr. WARNER. Of course I am. Other Members of this body have access to that information.

Mr. KERRY. I think it is fair to say without revealing anything classified, the conclusion of that report would place serious question in a reasonable person's attitude toward further disbursement of funds in this program in its current state.

Mr. WARNER. Mr. President, as I said earlier, I prefer not to discuss that report, which is classified.

Mr. KERRY. There are portions that are unclassified which support the conclusion I just drew. The unclassified portion certainly permits us. The unclassified portion said this program is a dud.

Well, I thank the Senator for yielding. I wonder if the Senator will agree with me that there are serious problems in the program.

Mr. WARNER. There are problems, but I am not sure that I would use the word "serious."

The Senator is correct that there are unclassified portions of that report which he has the right to refer to as possibly being in some measure in accord with his position. But I think the overall body of evidence on this, certainly the evidence before the Senate Armed Services Committee, fully justified the action of this body to once again reject the amendment.

If I may continue, I will be happy at any time to be interrupted for the purpose of a question.

These are the same reasons that prompted President Reagan to take the unusual step of sending a special report to the Congress on May 11, 1987.

In the Presidential foreword to that report, he stated:

The threat posed by the Soviet Union is growing more serious as time goes on. I cannot let this unilateral Soviet advantage continue unaddressed. As President and Commander in Chief of our military forces, I am personally committed to developing an operational U.S. ASAT which will help preserve the security of the Nation and our men and women in uniform. I am eager to work with the Congress to restore bipartisan support for the U.S. ASAT program in order to ensure that the testing moratorium is not reimposed and that proper funding is provided for fiscal year 1988 to enable this vital program to proceed.

On May 1, 1987, General Herres, the Vice Chairman of the Joint Chiefs of Staff, wrote to the Senate, this Senator and others, of his deep concern.

If this moratorium continues, its already serious detrimental effect on our national defense will continue. The maintenance of a constrained ASAT Program, despite the continued growth of Soviet military space capability, unilaterally disarms our forces in a critical area while ceding to the Soviets a sanctuary for space operations. Three years of program uncertainty, budget cuts, and test moratorium have not resulted in a demilitarization of space or reduced the Soviet space threat. Several JCS-directed exercises have clearly underscored the asymmetry in Soviet ASAT capability compared to that of the United States, and have just as clearly validated our need for an operational ASAT system.

Mr. President, there are many myths which accompany the ASAT issue, and I congratulate the members of the JCS and others, particularly the commander-in-chief of the U.S. Space Command, General Piotrowski, for his recent article which dispelled certain of these myths. I have made this article available to each of my colleagues, and I think it is now on their desks here in the Chamber, and I urge them to review it.

One of the most persistent myths is that the antisatellite programs will militarize space.

Mr. President, space has been militarized almost from the outset of the space age. We use space, as the commander-in-chief of the Space Command stated in his article, for communications relay, aids to navigation to warships, and for surveillance of warships, ground units, and for warning. The objective of those military activities is to support our Nation's strategy of deterrence by enhancing the capabilities of our terrestrial and maritime forces.

I might add, these forces have the ability to deter a numerically superior adversary, especially in the area of conventional weapons.

The Soviets have exploited the military theater space from its very outset. Ninety percent of all Soviet space launches support military operations.

Air Force Secretary Aldridge, who has been closely affiliated with the space program, wrote again to this

Senator in a letter dated September 11 of this year.

The Soviets also have roughly a 3 to 2 advantage over us in number of military satellites on orbit at any time. These Soviet satellites can be used to monitor and target our land and sea forces. Although the Soviets have not tested their dedicated co-orbital ASAT against a target since 1982—

As stated by my distinguished friend:

They continue to maintain proficiency by exercising several pieces of the system. For example, the ASAT booster is the same booster which is used to launch the Electronic Ocean Reconnaissance Satellite, EORSAT, and the Radar Ocean Reconnaissance Satellite, RORSAT. The last launch occurred approximately two months ago.

Madam President, did I see the Senator on his feet? I yield at any time for a question.

Mr. KERRY. I thank the Senator. What I wanted to ask him and perhaps I can point out to him, I know he is aware—

Mr. WARNER. Excuse me, Madam President, I did not hear the Senator. Would he repeat it?

Mr. KERRY. What I said was by way of a question, I know the Senator is aware of the distinction between militarized and weaponized, and I hope the Senator is clear that there is no assertion on this side that one of the reasons for passing this amendment is to prevent militarization of space. That has not been an asserted rationale for this amendment, nor is it. I hope the Senator is aware of that.

Mr. WARNER. I certainly accede to the manner in which the Senator wishes to interpret his own amendment and the effects thereof. Nevertheless, there has been considerable militarization of space by both nations over a lengthy period of time, and I think that fact is well known to the Members of this body.

Madam President, there have been a number of criticisms of the Asat on technical grounds. This Senator has followed the development program closely and observed any number of technical issues that have arisen only to be resolved eventually by the development program.

While the effectiveness of the overall system cannot be determined without completing the test program, there are no unresolved technological problems today.

I am interested if the distinguished Senator from Massachusetts agrees with that observation.

Mr. KERRY. Let me make certain that I understood the assertion of the Senator. He said that there is no outstanding existing technical problems with the program today?

Mr. WARNER. I said there are no unresolved technological problems today. I think that is pretty much the same thing.

Mr. KERRY. I do not think the Senator would agree with that, but in

order to discuss that I would have to go into the classified part of that report which I cannot do now.

If I may, by way of answering his assertion, however, this amendment is not calculated—and I would be happy if this comes out of my time. I do not have to have this one-sided.

Mr. WARNER. Madam President, I think this is a helpful colloquy, if there are no other Senators seeking recognition.

Mr. EXON. The only Senator who wants to be recognized is the Senator from Indiana. Maybe we could begin to yield back some of our time.

The PRESIDING OFFICER. The Chair brings to the attention of the Senators that the Senator from Massachusetts has approximately 23 minutes and a few seconds; the Senator from Nebraska has approximately 27 minutes and a few seconds.

Mr. WARNER. Madam President, I say to my distinguished chairman, the manager of the time, that I would be happy to relinquish the floor. If there is further time, I would be happy to utilize it, but I do wish to permit other colleagues to speak.

Mr. KERRY. Let me, if I may, Madam President, answer that question then, and attribute the time as the Chair sees fit.

I think it is very important in making the point for the continuation of this moratorium to understand that this amendment does not want to, nor does it seek to, demilitarize space. It cannot. The Senator from Virginia is absolutely correct. We are in the state we are in. The Soviet Union has used space militarily and, indeed, the majority of their payloads are associated with military missions. We understand that.

It is in fact precisely to preserve the U.S. military use of space that this amendment is important. We rely on space use of satellites for our command and control. That is a military use. It is an important use. It is one that the Senator from Massachusetts wants to preserve. If our satellites suddenly become threatened, then the Soviets have different options with respect to their strategy against the United States in the event of an attack. They can target certain satellites that are the critical components of our communications to our submarines, and then our own deterrent ability has been changed. So, it is precisely with an understanding of the military uses and an effort to try to preserve the safety of those military uses that this amendment has been put forward.

Does the Senator want to continue?

Mr. WARNER. Madam President, I apologize to my distinguished colleague. I had stepped out. I still adhere to the statement I made that there are no unresolved technological problems today. That is the position of

this Senator based on the facts as we received them in the Senate Armed Services Committee.

Mr. KERRY. I think it is clear that we still have some work to do. If we continue to test in a homing mode against an object in space, after a succession of tests—I think the Senator said we need to get to the point that we know if it works or it does not work. Is that correct?

Mr. WARNER. I missed one word. We need to get to the point where?

Mr. KERRY. Where we know the system works or it does not.

Mr. WARNER. That is desirable of all military systems, Madam President.

Mr. KERRY. Assuming we did that with this system, since ours is a homing device, fired from under the wing of an F-15 fighter—the F-15 goes up to a classified number of feet and fires its homing device, and it goes into space and homes into the satellite. If we develop that system to the point where, as the Senator says, we know we have a working system, the Soviets, who are tracking our testing, who are watching us develop the system, will know just as we know that we have developed a working system, at which point every single F-15 in the United States arsenal becomes, from the Soviet point of view, a potential operational antisatellite weapon.

When we have sent that message to the Soviet Union, and they will know it, they will have no choice but to have the same capability, just as they always have in every weapon they have developed since 1945 when we first blew up the bomb.

You can trace a whole pattern of who did what first and who followed. And no negotiation has been successful in eliminating something someone else has that puts them at a advantage ahead of the other until those people also have it. We never yet, with the exception now of the INF agreement, succeeded in reducing something until we had a mutuality of frustration or interests that brought us to the point that we were going to negotiate that.

So I would suggest that if we create that operational capability on our F-15's, you cannot have an agreement until they also have it. Then, given the past history of negotiations, it is very, very doubtful that you can get an agreement at all and we would have changed yet another pattern of relationships in terms of weaponry between our countries and I think put ourselves at risk.

Mr. WARNER. Madam President, I have to take the opposite side of that question because the facts do not lead to the conclusion that if one F-15 can carry out this mission, any F-15 can carry out this mission.

First, you have to train the pilots. Second, you have to put some configuration on the aircraft. Third, you have

to have a support base. Fourth, you have to have an area in which we do these tests in operational equipment, even if they were all in an operational status. And fifth and most important, the Soviets need only consult the CONGRESSIONAL RECORD at any time and they would know exactly how many F-15's, how many F-15 pilots, and how many bases are capable of going into an operational mode with this system.

For those who argue that there are satellites against which the Asat would be effective, I would respond that it will be very effective against the threat it is intended to put at risk—those low-Earth-orbit satellites that enhance the effectiveness of Soviet terrestrial forces in the maritime arena, and increase the leverage of their numerically superior land forces.

For those who argue that a better answer to the Asat problem is just around the corner in the SDI Program, I would respond as follows:

First, the Asat course we are now on provides the earliest possible availability of the needed capability at the least cost. Even if those who see a better Asat in the SDI Program were willing to increase SDI funding to accelerate such efforts, an operational Asat would still not be available on the same schedule as the programmed F-15 Asat.

Second, such a course has implications for arms control. How would the advocates of such an approach reconcile potential arms control limits on strategic defense technologies with Asat's which potentially span the spectrum from low-to-high intensity conflict? Would an ERIS-based Asat system, for example, count against the 100 interceptors currently allowed under the ABM Treaty, and how might such commonality be treated in future agreements?

Mr. President, millions of readers of "Red Storm Rising" came to an appreciation of the tremendous military implications of the F-15-launched Asat Program. This Senator believes the author painted a scenario that is too real to ignore, and certainly one that cannot justify continuation of a wasteful unilateral constraint on a needed U.S. capability.

Mr. President, I urge my colleagues to join me in supporting the committee position and reject the Kerry amendment.

Madam President, I have perhaps used an excess of time. I would like a few more minutes if the manager sees fit at a later time.

Mr. EXON. Madam President, I would suggest in order to move things along a little bit that I believe we are down to where the Senator from Massachusetts is in a 20-minute timeframe and I think I have about 25 minutes.

I was just wondering to expedite things if we might agree that I would

yield for 5 minutes to the Senator from Indiana. That would about even up the time, then have 1 minute for closing statements from that side, 1 minute over here, and then vote. Is there any objection to that procedure?

Mr. QUAYLE. Let me just say to my dear friend, let me make a short statement. I do not know whether it will be 5, 4, or 9 minutes. I do not want to be restricted to 5 minutes.

Mr. EXON. I yield 9 minutes to the Senator from Indiana.

Mr. WARNER. Madam President, I wonder if the Senator would allow me to make a 5-second observation. I ask my good friend from Massachusetts. Did he have the opportunity to read "Red Storm Rising" in which there was a very clear description of this whole area almost frightening in its reality?

Mr. KERRY. I did.

Mr. QUAYLE. Madam President, I ask unanimous consent that the time be charged against the Senator from Massachusetts and not mine.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. KERRY. The Senator from Massachusetts is happy to take time to answer that question. The answer is yes, I did, subsequent to having read "The Hunt for Red October." I enjoyed them both enormously. In fact, it convinced this Senator even more of the need to try to move in the direction. I think there are other alternatives to deal with that. I talked about them. We are not spending enough money on them. There are legitimate threats but this does not answer them. I think that is my response.

The PRESIDING OFFICER. The Senator from Indiana was yielding his time.

Mr. KERRY. Madam President, I ask unanimous consent if I may that Senator MOYNIHAN be added as a cosponsor of this amendment.

The PRESIDING OFFICER. Without objection, it is so ordered.

The Senator from Indiana.

Mr. QUAYLE. Thank you, Madam President.

I am glad my friend from Virginia raised the issue of "Red Storm Rising," and I guess I just had a much different conclusion than my distinguished colleague from Massachusetts because in that book, as everybody will well remember, it was the satellites from the Soviet Union, the EORSAT's and the ELINT's that really did very severe damage initially to the naval task force of the United States. And it was only through our Asat capability, in that particular book, which the Senator says he read and both Senators said they read, it was only through the Asat capability in that novel, that the United States was able to turn a very difficult situation around. I think that points out one of the reasons why we in fact do need an

Asat capability. We all have good pastime reading, and Red Storm Rising is certainly a good place to begin this discussion.

Madam President, I think what we want to ask ourselves is in whose benefit is this moratorium? Our friend from Rhode Island was talking about who is ahead. Who is ahead in this? Well, I guess there are certain facts you can examine. Who has deployed Asat capability? There is no doubt about it. The facts conclude the Soviet Union has a deployed Asat capability in their coorbital system, their GALOSH system, ground-based lasers, and radio jammers. Not only do they have a capability that is deployed, but they have tested it. They have tested it 20 times against space targets. We have tested our Asat against an object in space once.

I can see how from their point of view it might be a good thing if we did not go ahead and test an Asat capability since they have already a system that is deployed. We do not have a deployed system. They have tested theirs 20 times. We have tested ours once. I can certainly see how that in fact is a very good situation, but not one that we ought to accept.

Madam President, the issue of verification has come up. According to the briefings that we have had it is very, very difficult, if not impossible, to verify Asat tests. What is a Asat test? It is a test against an object. Is that a docking? We can go up against a satellite and dock. Obviously, if you can go up against a satellite and dock, you can go up against a satellite and destroy it. So therefore we might not know whether we have a successful Asat system until the satellite is actually destroyed. I suppose at that time we would certainly be able to verify that we had Asat capability if our satellite was destroyed. I am sure the Senator would agree if a satellite is destroyed, then they have proven Asat capability; that they have proven Asat capabilities if the satellite is destroyed. But what can we know if the Soviets engage in or deploy space mines?

So there is absolutely no doubt about it. Verification is very, very difficult issue in this discussion.

Also, Madam President, I believe we have heard on this floor this last week and a half arms control and in fact discussions that are going on. There is no doubt about it. Asat is part of the space and defense discussions, and how we are going to proceed in defense, particularly defenses in space. So this is an issue that will be discussed. I do not believe we ought to get into prejudging particularly where the Soviets already have one deployed, have three systems that are capable, or actually four systems that are deployed. They have tested it. There-

fore, when we look at this thing in the total perspective, I do not believe it is certainly in our best interests to continue this moratorium even though I can see how it is from the Soviet point of view.

Do we need, Madam President, an Asat capability? I certainly think that we do.

It occurred to the distinguished Senator from Virginia, former Secretary of the Navy. In his discussion not only about "Red Storm Rising," but in his concerns about our maritime forces. The thing that really threatens them are the Soviet satellites, RORSAT's and ELINT's, which can determine where many of our ships are. The United States is a maritime nation. We have to have access, and we have to have control of the seas.

What is really threatening to our Navy is not the Asat capability of the Soviet Union, so much as their surveillance, reconnaissance, and intelligence satellites. If they are what's threatening, the only way to continue to overcome that vulnerability is to go up and be able to have some capability take out those satellites.

Madam President, that is one reason why we need to lift the Asat test moratorium. Another reason, is that space is our future. We have to be able to come to grips on how we are going to use space, how we are going to be able to effectively control it, and utilize this control. Our satellites are very important. We have military assets in space. The Soviet Union has military assets in space. Space is going to be very important to our future.

Also, how we are going to get arms control in space? I know the author of this amendment is very interested in the whole process of arms control. How are we going to get arms control in space someday? Arms control in space—I think eventually we will probably see agreements to establish self-defense zones in space, that will actually divide up space between the Soviet Union, the United States, and other nations so that certain areas would be ours. If others come within our zones, then in fact they would be infringing on our territory and under certain circumstances that would be a violation of the understanding.

If you are going to have space assets, if you are going to utilize space, if you are going to have to work in space, which I certainly believe that we will, if you look at any kind of an arms control process in space, you are going to have to look at satellites to be able to defend themselves.

If satellites can defend themselves, that means they are going to have to have the ability to do what, Madam President? They are going to have to have the ability to thwart an attack if they get attacked in space. Therefore, that is antisatellite capability. That is why such people as Ashton Carter and

the people at the Aspen Institute and others have written and talked about the futility of having a moratorium on an antisatellite capability.

I believe that as we look forward, we are going to move in a direction where we are going to have ventures into space. We need to have this system because of the tremendous threat that the Soviet satellites present to any kind of projection of force.

We have mobile command and control centers land based in this country. If the Soviets, through their satellites, intelligence, and reconnaissance capability can identify where they are, the Soviets might be more inclined to attack to knock them out in a crisis. We need to secure the Asat.

So, I predict that no matter what happens today—I hope that this amendment, which has been defeated in the past, will be tabled, as it should be—eventually we will have an antisatellite capability. There is no doubt about it. We are going to move in that direction, and the sooner the better.

Madam President, I hope that when the proper time comes, a motion to table will be offered and will be agreed to.

The PRESIDING OFFICER. Who yields time?

Mr. EXON. Madam President, I believe there are about 14 amendments remaining on this side and about 18 amendments on the other side.

I believe we have thoroughly debated this subject. I listened with great interest to the excellent presentation by the Senator from Massachusetts and others, and those who have opposed this amendment have made their case very well. I am prepared to conclude in 2 minutes and yield back the remainder of my time, if we could have a similar arrangement and understanding with the Senator from Massachusetts.

Mr. KERRY. I appreciate the request of the Senator from Nebraska. I will try to do it in 2 minutes, but I do not want to restrict myself. We will try to terminate it now and move on.

Madam President, I should like to respond quickly to a couple of points made by the Senator from Indiana, who works hard at this and believes strongly in the SDI and some ancillary subjects, including this one.

The "red storm rising" problem, the surprise or immediate damage done by satellites to naval forces, and so forth, is not resolved by our development of our current antisatellite system. That is not going to be resolved by that. Any kind of surprise attack is not resolved by having an antisatellite system immediately available. The attack will take place. You will not get to use your system, and when you do, it will not be on the original attacking entities. So that will not solve that.

Second, yes, there is a GALOSH system around Moscow; it has been

there for years. We had one once in North Dakota. We took it down, we dismantled it, because we decided it was useless.

The GALOSH system has never been tested in antisatellite mode. Again, as to the issue of verification, it is fascinating to me that no one has ever asserted that it has been tested in antisatellite mode.

Mr. QUAYLE. Mr. President, will the Senator yield?

Mr. KERRY. I yield.

Mr. QUAYLE. The Senator is not disputing that the GALOSH system is capable of reaching antisatellite mode?

Mr. KERRY. Not in the least. The GALOSH system could reach antisatellite mode. But if it has not been tested, no general, admiral, President of a country, or General Secretary worth their salt in making judgments about military strategy is going to rely on it and say, "That's a system we can depend on."

So the GALOSH system has not been tested against an object in space or otherwise, and at this moment it is not what we call a dedicated antisatellite system.

Finally, the Asat system has not been tested just once, as the Senator has said. It has been tested once against an object in space, but it has been tested five times in total, four of them against a point in space. We have an 80-percent success rate with ours, versus their 100-percent failure rate—100-percent failure rate—in their second generation homing system antisatellite weaponry. So, to liken the two is not accurate.

As to the GALOSH system, the President, at any moment he wishes, under this amendment, can say to us: "They have tested. We are going to test." We are not disadvantaged. This is a mutual moratorium, not unilateral. We are only going to do what the Soviet Union has already done; and the reason we are going to do that is that many of us believe that it is in the longer term interests of the United States to protect its satellites, to stay in weapons out of space. There is a difference.

My colleague is absolutely correct: In the long run, there are going to be enormous difficulties in terms of verification in space weaponry. I am not sure how we will do it all in the long run, but I know that we are better off buying time to discover how we are going to do it, put more money into creating the protocols and the verification technology, than we are now to rush headlong into space with weaponry which makes it even more complicated and harder than it is.

If we have a prayer of staying out of space in terms of future weaponry, this is part of that effort. This does not tie the hands of the President. He

can negotiate. He can sit down with Mr. Gorbachev and say: "We have a moratorium, but we are going to move ahead in the future unless you do this and this," and come forward to the Senate, and show the negotiating record, show intransigence. No options are minimized here. What it does is create more options. It keeps the options open. So we do not rush headlong into a position which does not become a position from which we cannot recover.

Madam President, I yield back the remainder of my time.

Mr. EXON. Madam President, I ask unanimous consent to have printed in the RECORD a letter addressed to the chairman of the Armed Services Committee, Senator NUNN, from Mr. E.C. Aldridge, Jr., Secretary of the Air Force.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

DEPARTMENT OF THE AIR FORCE,
Washington, DC, September 11, 1987.

Hon. SAM NUNN,
U.S. Senate,
Washington, DC.

DEAR SENATOR NUNN: As you are aware, despite your outstanding efforts Congress reimposed the testing moratorium on the U.S. anti-satellite (ASAT) program last year. I am deeply concerned that our opponents will succeed in enacting this testing moratorium for a third straight year which will severely jeopardize continuation of the ASAT program.

I first want to extend my appreciation for your continued support of this program. I want to personally reassure you that the Air Force is firmly committed to the continued development and deployment of the current air-launched miniature vehicle ASAT system. While I know that you fully understand why the U.S. needs an ASAT, I would like to provide some recent updates on the Soviet threat. I will also cover some of the details on our recently completed program restructuring.

We estimate today that ninety percent of all Soviet space launches support military operations. The Soviets also have roughly a three to two advantage over us in number of military satellites on-orbit at any time. These Soviet satellites can be used to monitor and target our land and sea forces. Although the Soviets have not tested their dedicated coorbital ASAT against a target since 1982, they continue to maintain proficiency by exercising several pieces of the system. For example, the ASAT booster is the same booster which is used to launch the Electronic Intelligence Ocean Reconnaissance Satellite (EORSAT) and the Radar Ocean Reconnaissance Satellite (RORSAT). The last launch occurred approximately two months ago. Further, we have assessed the laser facility at Sary Shagan as capable of damaging our satellites in low orbit.

Last fall, as a direct result of the Congressional testing moratorium, we performed a complete reassessment of the ASAT program. This reassessment revalidated the seriousness of the Soviet space and ASAT threats described above, and the need to deploy an operational system now. The reassessment also concluded that we must continue with the air-launched miniature vehi-

cle ASAT since it is the only cost-effective system which can be deployed with high confidence in the required time period. Using any of the other systems, including those being developed under the Strategic Defensive Initiative (SDI) would delay an operational capability by a minimum of four years. Additional conclusions were: (1) that several of the Soviet satellites may be moving to higher altitudes and therefore, some improved altitude capability would be prudent, and (2) investment in laser technology should be pursued for a complementary system.

Our restructured program submitted in the FY 1988/89 President's Budget has three major efforts: (1) Proceeding with the air-launched ASAT, (2) Incorporating an improved altitude interceptor, and (3) Cooperatively funding a ground-based laser effort with SDI. We believe that this phased approach will provide us with a much needed nearterm capability while allowing us the flexibility to determine the optimum force-mix to meet any changes in the long-term Soviet threat.

We believe that this is a critical year for the ASAT program. The major obstacle which we must overcome is to deny the reimposition of the testing moratorium. I am counting on your support again to help us in winning the ASAT battle. Please do not hesitate to contact me if you have any questions or suggestions.

Sincerely,

E.C. ALDRIDGE, JR.,
Secretary of the Air Force.

Mr. EXON. Madam President, I am not sure that we are ever going to be fully successful in developing the Asat system off the F-15 launch vehicle, but at this juncture it seems to me that we should keep our options open in these areas and go to conference with the House of Representatives with the measure as it came out of the Armed Services Committee.

Madam President, I yield back the remainder of our time, and I ask that the Chair recognize the Senator from Indiana.

The PRESIDING OFFICER. The Senator from Indiana.

Mr. QUAYLE. Madam President, I move to table the amendment, and I ask for the yeas and nays.

The PRESIDING OFFICER. Is there a sufficient second?

There is a sufficient second.

The yeas and nays were ordered.

The PRESIDING OFFICER. The question is on agreeing to the motion to table the amendment. On this question the yeas and nays have been ordered, and the clerk will call the roll.

The assistant legislative clerk called the roll.

Mr. CRANSTON. I announce that the Senator from Illinois [Mr. SIMON] and the Senator from Mississippi [Mr. STENNIS] are necessarily absent.

I further announce that, if present and voting, the Senator from Illinois [Mr. SIMON], would vote "nay".

The PRESIDING OFFICER. Are there any other Senators in the Chamber desiring to vote?

The result was announced—yeas 51, nays 47, as follows:

[Rollcall Vote No. 260 Leg.]

YEAS—51

Armstrong	Glenn	Murkowski
Bond	Graham	Nickles
Boren	Gramm	Nunn
Boschwitz	Grassley	Packwood
Byrd	Hatch	Pressler
Chiles	Hecht	Quayle
Cochran	Hefflin	Roth
Cohen	Helms	Rudman
D'Amato	Hollings	Shelby
Danforth	Humphrey	Simpson
DeConcini	Karnes	Stevens
Dixon	Kassebaum	Symms
Dole	Kasten	Thurmond
Domenici	Lugar	Trible
Exon	McCain	Wallop
Fowler	McClure	Warner
Garn	McConnell	Wilson

NAYS—47

Adams	Ford	Mitchell
Baucus	Gore	Moynihan
Bentsen	Harkin	Pell
Biden	Hatfield	Proxmire
Bingaman	Heinz	Pryor
Bradley	Inouye	Reid
Breaux	Johnston	Riegle
Bumpers	Kennedy	Rockefeller
Burdick	Kerry	Sanford
Chafee	Lautenberg	Sarbanes
Conrad	Leahy	Sasser
Cranston	Levin	Specter
Daschle	Matsunaga	Stafford
Dodd	Melcher	Weicker
Durenberger	Metzenbaum	Wirth
Evans	Mikulski	

NOT VOTING—2

Simon Stennis

So the motion to lay on the table, amendment No. 711 was agreed to.

Mr. WARNER. Madam President, I move to reconsider the vote by which the motion was agreed to.

Mr. MCCLURE. I move to lay that motion on the table.

The motion to lay on the table was agreed to.

The PRESIDING OFFICER. The Senator from Virginia.

Mr. WARNER. I thank the Chair.

Madam President, the manager of the bill, the Senator from Georgia, was here a few moments ago. We are trying to sequence the amendments. As we agreed on Friday afternoon, the distinguished majority leader will recall that we worked on the sequencing of amendments. There may be other amendments that the Senate would desire to bring up but it seems to me out of deference to the chairman, here, who is diligently exploring the options, that it would be appropriate to just put in a quorum call for a period of time.

Mr. WEICKER. Would the distinguished Senator from Virginia yield?

Mr. WARNER. I would yield only for the purpose of a question. I do not wish to yield the floor at this time.

Mr. WEICKER. As the Senator from Virginia knows, I have an amendment. I believe the last amendment was offered by a distinguished Member of the other side.

I believe it is also the wish of the floor managers that the business be moved along. I really do not understand why it is that we have to have a quorum call if, indeed, we can have

substantive business before us, most specifically an amendment relating to the most recent actions in the Persian Gulf.

So I would hope that my good friend from Virginia would allow this Senator to do what everybody else has been doing, which is to offer an amendment.

If it is delay of the bill the distinguished Senator wants, I am sure we can also accommodate on that score.

Mr. WARNER. Mr. President, I understand fully. The distinguished Senator from Connecticut has in a very cooperative way discussed with this Senator the purpose of his amendment. If I understand that correctly it is to revisit the decision made by this body some few days ago with respect to invoking the War Powers Act?

Mr. WEICKER. That is correct.

Mr. WARNER. Mr. President, that is certainly within this Senator's rights to bring that issue up. I am simply at this time wondering if we may have a short period within which the chairman of the committee might confer with the ranking member, regarding commitments that this body made under the unanimous consent request of Friday?

Mr. WEICKER. Well, to the distinguished Senator from Virginia, am I correct in assuming there is some predetermined sequence of votes? I do not think that there was such an agreement arrived at. I will be glad to have the unanimous-consent request restated but I do not think there was a specific order.

Various Senators, as I recall, agreed to enter into time agreements on their amendments and, indeed I ask—make a parliamentary inquiry: Under the unanimous-consent agreement that was arrived at, was there a specific order to amendments arrived at?

The PRESIDING OFFICER (Mr. WIRTH). There was no specific order arrived at. There was a time agreement on a number of amendments, and there was a general understanding an attempt to coordinate votes was possible.

Mr. WARNER. If you would yield momentarily? That is a correct interpretation and that was the spirit, at the time of the agreement. But I wonder if there were not a few words in there with respect to the time agreements to the effect that we have granted these time agreements with the understanding that they may not have a preferential order under the time agreement. Nevertheless, if they would—and certain Senators did—concede to a time agreement, then they would be given some form of recognition here today. It may well be that there are not present on the floor one or more of those Senators that were involved in the time agreements. I am just wondering if we may have a short period of time in which the leadership

of the Senate, which is presently here on the floor, the chairman who is momentarily off the floor, the ranking Member and the distinguished Senator from Connecticut, can assess the situation.

Mr. WEICKER. I concede to the distinguished Senator from Virginia the floor. I am not trying to take the floor from him. But just to pursue this matter, I alert the Parliamentarian, in case the Parliamentarian is not possessed of the unanimous-consent request, that I am going to make a parliamentary inquiry to restate what the unanimous-consent request was.

If she has it in her hands now, I would like to have it stated by the Chair.

The PRESIDING OFFICER. That is a proper inquiry by the distinguished Senator from Connecticut.

During consideration of S. 1174, a bill to authorize appropriations for fiscal years 1988 and 1989 for military activities of the Department of Defense, for military construction, and for defense activities of the Department of Energy, to prescribe personnel strengths for such fiscal years for the Armed Forces, and for other purposes, the amendments listed below be in order under the following time limitations; the time to be equally divided and controlled in the usual form; that a vote occur on or in relation to each amendment upon the expiration or yielding back of the time; that no second degree amendments or amendments to the text proposed to be stricken be in order:

Kerry ASAT—2 hours; *provided*, That if a tabling motion fails, the time limitation falls.

Johnston SDI Funding—4 hours.
Lautenberg Religious Headgear—1 hour, 30 minutes.

Kennedy-Hatfield Nuclear Testing—2 hours; *provided*, That if a tabling motion fails, the time limitation falls.

Hatfield Chemical—1 hour.
Pryor Chemical—1 hour, 30 minutes.

Mr. WEICKER. To my distinguished friend from Virginia, I certainly see nothing in that unanimous-consent request which in any way sequences amendments. I really find it somewhat surprising that since the distinguished majority leader is on the floor he has been pressing for business under this bill, amendments under this bill. Now that I am here trying to offer an amendment I am in effect being told that we have to wait on a quorum call and, believe me, I do not mind doing the business of the Senate 7 days a week but I sort of object doing it on Saturday when I am not allowed to do it on Tuesday.

Unless there is something in the cards here that I do not know anything about—I would be delighted to have it explained to me by the distinguished Senator from Virginia or the majority leader—I would merely like to send by amendment to the desk.

I might add I am perfectly willing, so the majority leader understands that nothing is going to take place to delay this bill, I am willing to send it to the

desk under a one-half-hour time agreement so there is no question of delay. No question of delay.

But clearly, clearly facts in the Persian Gulf within the last 48 hours, I think, are new matter upon which the U.S. Senate should pass. Regardless of the vote that it took previously.

The last time we did this we were within 1 month's time after trying to avoid our responsibilities, 240 marines were killed on the tarmac in Lebanon.

Maybe nobody thinks this is hostilities and we can continue to say that the king is beautifully clothed, but I would suggest that these most recent events make it quite clear we are in hostilities. If we want to create an artificiality here, let us do it by a rollcall vote. But I would at least hope to have the courtesy of pursuing the business of this particular legislation, more particularly the amendment of Senator HATFIELD and myself, which, in effect, would invoke the War Powers Act.

Mr. BYRD. Mr. President, if the distinguished Senator from Connecticut is wanting an answer from me, I will be glad to give him an answer. I have no problem with his offering an amendment when he gets the floor. I might offer an amendment to it, but he has as much right to offer an amendment as anybody else around here. I have no problem.

Mr. WARNER. Mr. President, I, too, likewise know the right of our good friend and colleague to bring the amendment to the floor. I commend him for desiring to keep the momentum of the bill going forward.

I wonder if I gave him the assurance that were a quorum call to be put in that this Senator would anticipate that the duration of that call would not exceed 10 minutes, would he afford me the courtesy of having the opportunity to confer with the leadership of the Senate and others with respect to this amendment and another matter?

Mr. WEICKER. I would be glad to in any way accommodate my good friend, the distinguished Senator from Virginia. I believe a man such as he is a true gentleman. That is all I need. We know exactly where we stand. Please proceed. I will patiently await the pleasure of the distinguished Senator from Virginia.

Mr. WARNER. Mr. President, I thank my good friend from Connecticut for his cooperation. At this time, I suggest the absence of a quorum and I will revisit that request in no more than 10 minutes.

The PRESIDING OFFICER. The clerk will call the roll.

The legislative clerk proceeded to call the roll.

Mr. BYRD. Mr. President, I ask unanimous consent that the order for the quorum call be dispensed with.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. BYRD. Mr. President, shortly I will yield the floor. I am trying to get a couple of unanimous-consent requests, and the distinguished Senator from Connecticut wants to send up an amendment. He should have that opportunity. We did discuss alternating between sides as far as was possible to do so. At some point in time he should have that opportunity, and he will get that opportunity; and he should have it now.

UNANIMOUS CONSENT AGREEMENT—POSTPONEMENT OF CONSIDERATION OF SENATE JOINT RESOLUTION 187

Mr. BYRD. Mr. President, the Republican leader I believe is in the Cloakroom.

Mr. President, I believe this request has been cleared with the Republican leader. It has to do with the sequestering, the fall-back automatic sequester. Today is the fifth day. Except for the use of this unanimous consent request, if we were in session until midnight tonight, that matter would automatically come before the Senate. I do not want to be here until midnight. And if it would be passed up after today, that would create a problem. So this request would temporarily postpone the consideration of the sequester resolution until no later than the close of business Thursday. It will give us a little more time tomorrow. It has its problems. On Thursday we cannot vote until sundown.

So I ask unanimous consent that notwithstanding Public Law 99-177, the Senate temporarily postpone consideration of Senate Joint Resolution 187 until no later than the close of business on Thursday, September 24, and that it be in order to consider the resolution under the statute notwithstanding section 254(a)(4)(A) of the act.

The PRESIDING OFFICER. Is there objection?

Mr. DOLE. Mr. President, reserving the right to object, and I shall not object, I will just indicate it has been cleared on this side.

Mr. BYRD. I thank the distinguished Republican leader.

The PRESIDING OFFICER. Without objection, it is so ordered.

NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEARS 1988 AND 1989

The Senate continued with consideration of the bill.

Mr. BYRD. Mr. President, I ask unanimous consent with the understanding the distinguished Senator from Connecticut, Mr. WEICKER, will offer an amendment, that at such time on tomorrow or at such time as the

Senate returns to the consideration of the DOD authorization bill, which would not be today, I be recognized to call up an amendment to the amendment that will be offered by the distinguished Senator from Connecticut; that I or my designee be recognized for such.

The PRESIDING OFFICER. Is there objection? Without objection, it is so ordered.

Mr. BYRD. I thank all Senators. May I say at this point that it is my plan then to go out of session today about 6:30. I had earlier said 6, I believe, but it was my understanding at that time the picnic at the White House was going forward. I understand that has been canceled.

Mr. DOLE. Because of weather it has been postponed until tomorrow.

Mr. BYRD. The Democrats are having a dinner tonight honoring the chairmen of the committees. So we will go out about 6:30. If the distinguished Senator from Connecticut wishes to discuss his amendment longer, I have no objection to leaving it in his hands and letting the Senate go out when he finishes his remarks.

Mr. WEICKER. In response to the distinguished majority leader, I have no intention of going beyond 6:30.

Mr. WARNER. Mr. President, this is a matter that we have discussed here. I wonder if the majority leader wishes to revisit the unanimous consent request. Did I understand that the majority leader would be recognized when the Senate comes back to this bill or was it there be a period of time after the Senate returns to the bill, in other words, to allow a little flexibility in there?

Mr. BYRD. I thought the Senator and other Senators might wish to debate the amendment with the Senator from Connecticut this evening as long as they wished. Then it would be my plan to put the Senate out and then tomorrow I would come in and go immediately to the—

Mr. WARNER. I understand that, Mr. President. But my question is once the Senate returns to the pending DOD authorization, is it instantaneously that the Senator be recognized for the purpose or would there be a lapse of time such that there could be some additional debate? Then would he be the only Senator recognized for the purpose of a perfecting amendment?

Mr. WEICKER. That was my understanding. In other words, there would be a little period of time, fully understanding the Senator from West Virginia would offer his amendment, but to bring them up to speed.

Mr. BYRD. Yes.

Mr. WARNER. Mr. President, I say further to the distinguished majority leader, I was listening. It appeared to me that only the proponents could be heard tonight on this measure in view

of the importance, a sense of fairness that some period of time be allocated for the opponents this evening.

Mr. BYRD. Yes. I have no reason to exclude those who oppose it tonight. I simply wanted to give the distinguished author of the amendment all the time this evening that he would wish and others who support his amendment while those of us who have to leave the Chamber would go.

But I should finish my statement by saying—the distinguished Republican leader being on the floor at this point—that it would be my intention tomorrow to come in, with the approval of the distinguished Senator from Georgia, and go immediately to the conference report on the extension of the debt limitation.

There is no time limitation on that conference report at the moment. It is a preferential motion. There is no debate on the motion to take up the conference report, so the Senate can go to that.

I would like to get a time agreement on the conference report. I have discussed that with the Republican leader, and he has someone on his side who does not wish to give consent to a time limitation on it. But the Senate will go to it. The debt limit expires tomorrow night at midnight.

So that will be the plan, keeping in mind that tomorrow evening we will not vote after 6 o'clock.

ORDER FOR RECESS UNTIL 8:20 A.M. TOMORROW

Mr. BYRD. Mr. President, I ask unanimous consent that when the Senate completes its business today, it stand in recess until the hour of 8:20 a.m. tomorrow.

The PRESIDING OFFICER. Without objection, it is so ordered.

LEADERS' TIME ON TOMORROW

Mr. BYRD. Mr. President, I ask unanimous consent that the time of the two leaders be limited to 5 minutes each tomorrow.

The PRESIDING OFFICER. Without objection, it is so ordered.

ORDER FOR RESUMPTION OF UNFINISHED BUSINESS ON TOMORROW

Mr. BYRD. Mr. President, I ask unanimous consent that at the close of the orders for the two leaders on tomorrow, the Chair place before the Senate the unfinished business.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mr. BYRD. That would be at about 8:30 a.m., at which time I will suggest the absence of a quorum. That will be a live quorum, and I will not ask for the regular order before the passage of 30 minutes. That would mean that by 9 o'clock or circa 9 o'clock, we would be ready to go to the conference report on the debt limit extension, without a time agreement. Of course, the unfinished business would take its place. Upon the disposition of the conference report, the unfinished busi-

ness would come back before the Senate.

Mr. HATFIELD. Mr. President, will the Senator yield for a question?

Mr. BYRD. I yield.

Mr. HATFIELD. I inquire of the majority leader: With respect to the unanimous consent agreement we entered into on the basis of his having the opportunity to present an amendment in the second degree to the proposed amendment to be offered by the distinguished Senator from Connecticut, I wonder if the Senator from West Virginia could give us the gist of his proposed amendment in the second degree. We would like to understand whether we will really be waging the debate on the amendment offered by the distinguished Senator from Connecticut or upon a perfecting amendment or an amendment in the second degree.

Mr. BYRD. I have to say to the distinguished Senator that I am carrying on consultations with a number of Senators about the language of the amendment, and I do not have it in final form at this point. I have been talking with Senators on both sides of the aisle—the Senator from Georgia, the Senator from Virginia Mr. WARNER, the Republican leader, Mr. BUMPERS, and I will be talking to the Senator from Oregon and the Senator from Connecticut. I do not mean to be flippant, but I do not have it ready.

Mr. HATFIELD. I was not seeking the precise language but rather a description. Would this be, in effect, a substitute for the war powers issue? Would we prepare for the debate on that issue? Or will it be on the War Powers Resolution or an alternative to the War Powers Resolution? Really, I am only asking for a general description.

Mr. BYRD. I could use the word "alternative" or I could use the word "substitute." I think either would apply in a rough kind of way.

Mr. HATFIELD. I thank the Senator.

Mr. NUNN. Mr. President, will the majority leader yield?

Mr. BYRD. I yield.

Mr. NUNN. I understand that the order of business would be now to complete the discussion of this amendment tonight—or, not complete it, but carry on the discussion; and tomorrow morning when we come in, we will go directly to the Gramm-Rudman-Hollings debt ceiling matter.

Mr. BYRD. Yes, if that is agreeable to the Senator from Georgia.

Mr. NUNN. I understand completely. I do not like to interrupt this bill, but we have to pass the debt ceiling and have to address Gramm-Rudman-Hollings. After that, did I correctly understand the majority leader to say we would return to the bill, or would there be other business?

Mr. BYRD. Upon the completion of the conference report, it is my plan, the distinguished manager of the bill approving thereof, to return to the bill. Automatically, it would be the order of business.

Mr. NUNN. Could I give a little glimpse as to the way I see the situation?

If we get back on this bill tomorrow afternoon and do some work on it tomorrow afternoon and tomorrow evening, to a reasonable hour tomorrow night, and then come in on Thursday—if I understand, most people are equipped to deal with going late—it is my recommendation, since we do have a number of time agreements, and assuming that the Weicker amendment can be disposed of in a reasonable amount of time, to continue Thursday late into the evening, perhaps go into the very late hours Thursday, to come in Friday, and try to complete this bill on Friday.

I know that a lot of people have engagements a long way off on Friday evening. I have talked to a number of them on both sides of the aisle. I hope that if we go through the debate tomorrow, Thursday, and Thursday evening, we could perhaps arrive at a time certain to pass this bill on Friday afternoon. If we do, we can avoid a Friday night session and a Saturday session. It will require going very, very late Thursday night and perhaps even late Friday night and perhaps Saturday.

If we are to complete this bill this week, that is the only way I know—to get an agreement or to be here most of Thursday night, Friday night, and Saturday.

Mr. BYRD. The Senator's observations are very helpful.

It seems to me that we should be able to finish the bill or get an agreement, as the Senator has indicated, in the alternative—get an agreement that would see the Senate finishing the bill no later than Tuesday.

Mr. NUNN. I would say Friday. I think Friday would be just as easy as Tuesday.

This is one of those bills—I think everybody recognizes—the longer it is here, the longer it will stay, because every subject that happens in the world is a subject to be put on this bill.

Either we will finish this bill or get some other train to attach amendments to, or this one will be here forever.

I think we should make up our minds to be here most of Thursday night, Friday night, and Saturday. Without putting off anyone, we ought to finish this bill Saturday afternoon. I hope we can finish the bill Friday afternoon and avoid Friday night and Saturday.

I believe that if we wait until Tuesday, unless there is an absolute limit

on amendments, we will be on this bill all of next week, too.

Mr. BYRD. I am with the Senator from Georgia 100 percent on what he has said. My reference to Tuesday was only in the event that we can get an agreement. If we cannot finish it Friday and get an agreement that puts a time for a vote on Tuesday, with the listing of the only remaining amendments that can be brought up, as we do from time to time, that might be a reasonable way out.

Mr. QUAYLE. Mr. President, will the majority leader yield?

Mr. BYRD. I want to yield the floor soon, so that the distinguished Senator from Connecticut can proceed with his amendment.

Mr. President, I ask that no motions or other amendments be offered today after the amendment by the distinguished Senator from Connecticut. I say that not to protect myself against the Senator from Connecticut, because he and I have an understanding; but if he should yield the floor and other Senators were to make motions, I do not want those to be in order. There will be a time when some of us have to leave the floor for the day.

The PRESIDING OFFICER. Is there objection?

Mr. DOLE. Mr. President, reserving the right to object, I ask the majority leader, with respect to offering a second-degree amendment, that would not foreclose other second-degree amendments if that were defeated?

Mr. BYRD. No, not if that were defeated, it would not. My request would not foreclose other second-degree amendments.

Mr. QUAYLE. Mr. President, reserving the right to object.

Mr. BYRD. Mr. President, I yield the floor.

Mr. QUAYLE. This unanimous consent only applies to the remainder of the day; is that correct?

Mr. BYRD. Yes.

Mr. NUNN. Mr. President, will the majority leader yield briefly? And I apologize to my friend from Connecticut.

Mr. BYRD. I have yielded the floor. I believe he has the floor.

Mr. NUNN. Mr. President, will the Senator yield?

Mr. WEICKER. I yield.

Mr. NUNN. Mr. President, we have the possibility now of getting business set for Thursday afternoon. I believe that is a possibility, because on Thursday there is going to be nonvoting until 4 o'clock. We have the Senator from Oregon and the Senator from Arkansas on the floor, and they have chemical amendments. We know what they are, I believe. They have a time agreement on those amendments.

If we could set in unanimous consent form arrangements where we begin the debate on those amendments until

4 o'clock on Thursday afternoon and debate the amendment of the Senator from Oregon first, the amendment of the Senator from Arkansas second we would have two rollcalls stacked beginning at approximately 6 o'clock that night. I know we will have other things that morning. That would be a big help if we have everyone here to agree on that.

Mr. BYRD. They could not get it.

Mr. NUNN. They prefer them starting at 4 o'clock. I have other amendments.

The Senator from Massachusetts has agreed to bring up three amendments that morning.

Mr. QUAYLE. Mr. President, will the Senator yield on that point?

Mr. NUNN. I yield.

Mr. QUAYLE. I say I have no desire to delay the bill. We have already done that, and we are on the bill and going to finish it at some time. I think it is going to be very, very difficult to get off of this amendment and whatever second-degree amendments are offered to it until we get some understanding what we are going to do. What is going to happen is that is going to be on the floor. It will take unanimous consent and maybe we will dispose of these amendments. Then you will have to get unanimous consent to set aside these amendments to go to anything else, to the amendment of the Senator from Oregon or the Senator from Arkansas.

I think it is probably going to be fairly difficult to get that unanimous consent until we get some understanding of where we are going to go on this particular, I think, very explosive issue.

The PRESIDING OFFICER. The Chair will note there is a unanimous consent request pending by the majority leader. It will preclude amendments to the Weicker amendments this evening. There is a unanimous-consent request made by the majority leader.

Without objection, it is so ordered.

Mr. BYRD. Mr. President, for the information of all Senators there will be no more rollcall votes today.

AMENDMENT NO. 712

(Purpose: To require compliance with the provisions of the War Powers Resolution)

Mr. WEICKER. Mr. President, I have an amendment at the desk, an amendment on behalf of myself and Senator HATFIELD. I ask that the clerk report the amendment.

The PRESIDING OFFICER. The clerk will report the amendment.

The legislative clerk read as follows:

The Senator from Connecticut [Mr. WEICKER] for himself and Mr. HATFIELD proposes an amendment numbered 712.

Mr. WEICKER. Mr. President, I ask unanimous consent that the further reading of the amendment be dispensed with.

The PRESIDING OFFICER. Without objection, it is so ordered.

The amendment is as follows:

On page 114, between lines 13 and 14, insert the following new section:

SEC. . MEETING THE REQUIREMENTS OF THE WAR POWERS RESOLUTION.

(a) FINDINGS.—The Congress finds that—

(1) section 4(a)(1) of the War Powers Resolution requires the submission, within 48 hours, of a report by the President to the Congress whenever, in the absence of a declaration of war, United States Armed Forces are introduced "into hostilities or into situations where imminent involvement in hostilities is clearly indicated by the circumstances"; and

(2) on September 21, 1987, United States Armed Forces attacked an Iranian vessel which was laying hostile mines in the Persian Gulf.

(b) POLICY.—(1) Therefore, the Congress declares that the report described in section 4(a)(1) of the War Powers Resolution is required to be submitted to the Congress by the President pursuant to such section not later than 48 hours after the attack referred to in subsection (a)(2) of this section.

Mr. WEICKER. Mr. President, this is very brief. Let me read to my colleagues the substance of this amendment.

(a) FINDINGS.—The Congress finds that—

(1) section 4(a)(1) of the War Powers Resolution requires the submission, within 48 hours, of a report by the President to the Congress whenever, in the absence of a declaration of war, United States Armed Forces are introduced "into hostilities or into situations where imminent involvement in hostilities is clearly indicated by the circumstances"; and

(2) on September 21, 1987, United States Armed Forces attacked an Iranian vessel which was laying hostile mines in the Persian Gulf.

(b) POLICY.—(1) Therefore, the Congress declares that the report described in section 4(a)(1) of the War Powers Resolution is required to be submitted to the Congress by the President pursuant to such section not later than 48 hours after the attack referred to in subsection (a)(2) of this section.

First let me say I realize this matter was visited by the U.S. Senate a few days ago, at the end of last week. I have to say that even though at that time I thought our vote ignored the facts, I think new matter makes it even more urgent that we visit the matter of the War Powers Act today.

Now, let me just very briefly summarize that portion of the War Powers Act I think is of concern.

Under the War Powers Resolution, I am quoting now, and I will quote several times from an article that was written by the late Senator Jacob Javits, of New York, on October 23, 1983.

In that article Senator Javits states:

Under the War Powers Resolution, the President must consult with Congress before introducing the armed forces—"into hostilities or into situations where imminent involvement in hostilities is clearly indicated by the circumstances." Under 4(a)(1), the President must report to Congress on the status of United States troops in such situations. In another clause, the

President must inform Congress if troops are sent into foreign locations not directly or indirectly related to the prospect of combat. Section 5(b), perhaps the engine of the resolution, requires the President to withdraw troops in 60 to 90 days unless Congress authorizes their continued presence. He must, in any case, withdraw them immediately if directed to do so by a concurrent Congressional resolution, which is not subject to Presidential veto.

Now, Mr. President, according to the papers of today, and I read from the New York Times dated New York, Tuesday, September 22: "U.S. reports firing on Iranian vessel seen laying mines—craft is set afire. Copter's Action in Gulf Is Called Defensive by the White House."

The first point I want to make is the word "defensive" or "offensive" has nothing to do with the invocation of the War Powers Act.

Again, the War Powers Resolution is the law of the land. This is not something prospective. This is not something discussed and passed over. The War Powers Act is the law of this Nation.

I now quote again from the act: "In the absence of a declaration of war, in any case in which United States Armed Forces are introduced—into hostilities or into situations where imminent involvement in hostilities is clearly indicated by the circumstances." "Hostilities"—is the trigger word. That is the mechanism. Hostilities. Either into hostilities or into situations where imminent involvement in hostilities is clearly indicated by the circumstances.

How can anyone in this Nation, much less this privileged few who even just moments ago came from a briefing session—how anyone can say that there are no hostilities or the situation is not imminent of hostility? The mines, as far as I understand, certainly are not beachballs with which people play. The warships of the U.S. Navy are not cruise ships. It reeks of hostility. It is a definition of the word "hostility" in and of itself.

They say we live in an unreal world here in Washington, DC, and on the Senate and the House floors. And nothing proves that point better than our failure to adopt the Hatfield amendment last week or if we should fail to adopt the Weicker-Hatfield amendment this week. At what point does it become a hostility?

Does the sinking of an aircraft carrier, is that the trigger mechanism? Or a battleship? How many numbers of personnel have to be killed before the definition of hostility is fulfilled?

And it is not as if we have not been through all of this, because I remember this debate back in 1983 when we had our marines in Lebanon and continually the President tried to avoid meeting the exact requirements of the

War Powers Act. And then finally, the following events took place.

On August 29, 2 U.S. marines died, 14 were wounded in hostile fire.

On August 31, 1983, the Senate received a report from President Reagan "consistent with section 4 of the War Powers Resolution," but expressing the view the danger would be only temporary.

September 8, 1983, two more marines die 2 days earlier; U.S. Navy ships return fire.

Remember all this history?

September 14, 1983, Senator BYRD introduced Senate Joint Resolution 163, making a congressional determination that section 4(a)(1) of the War Powers Resolution applied to the situation in Lebanon.

September 29, the Senate approves a multinational force in Lebanon resolution.

I voted against that, along with Senators ROTH and HATFIELD.

And on October 23, 241 United States Marines were killed on the tarmac in Lebanon.

Also, ironically, on October 23, 1983, in the magazine section of the New York Times, former Senator Jacob Javits wrote an article "Who Decides on War?" decrying the fact that the Congress and the President were trying to avoid their responsibilities under the War Powers Resolution.

Senator Javits used a quote from Thomas Jefferson at the beginning of that article:

We have already given . . . one effectual check to the dog of war by transferring the power of letting him loose, from the executive to the legislative body, from those who are to spend to those who are to pay.

Jack used that as the introduction to his examination of the War Powers Act and how Congress had failed to meet its responsibility and the President under it.

Mr. ADAMS. Will the Senator from Connecticut yield for a moment without yielding the floor?

Mr. WEICKER. Will the Senator just give me 2 or 3 more minutes, then I would be glad to yield to the Senator from Washington.

Mr. ADAMS. I thank the Senator.

Mr. WEICKER. Is there anybody, as a matter of common sense, not as a matter any particular military knowledge or of any particular governmental knowledge or Presidential knowledge or senatorial knowledge, that would not agree that the present situation in the gulf is one involving hostilities?

It is not whether you are for or against it. It is not a matter of defender or aggressor. It is not a matter of size or numbers. It is just the clear picture in that part of the world that defines the word "hostility."

And do you know what I find ironic at this point in time? The whole Nation has its focus on the confirma-

tion of hearings of Judge Bork, and one of the first questions asked by my colleagues was his views on the War Powers Act—his views on the War Powers Act.

Well, how about our views on the War Powers Act, given the opportunity to express them under law? And we do not have the courage to do it. Or given that opportunity, we reject it, when clearly we flout both the spirit and the letter of the law.

What will be required to have us enact the War Powers Act or de facto withdraw? What will be the number this time? Last time it was 240 marines. How many sailors, how many ships? And maybe it is—and this is an entirely different debate—that we should actually be there. Then let us vote that. But both the Congress and the President would prefer a fog, where if things go wrong nobody can find you. In the meantime, you keep your fingers crossed that they are right.

I know that my distinguished colleague from Washington wants a few minutes and I will be glad to yield for 2 minutes to him before concluding here and then I will yield to the distinguished Senator from Oregon.

(Mr. SANFORD assumed the chair.)

Mr. ADAMS. I will not take long, but I want to say to the Senator from Connecticut that I agree with him that we have, in effect, the War Powers Act in effect now; that it does not take anything but common sense to see that we are in imminent hostilities. And you remember the past of Lebanon from your service here, as I remember the past, from my service in Congress, in Vietnam.

The whole purpose of the War Powers Act was to create a check on the power of the Executive to be exercised, and the checks are applied from this Constitution. I agree with the Senator from Connecticut that we must stand to say that we are in or we are out of a particular action. This Senator is prepared to vote on that action and the War Powers Act should be up so that we do vote on it. It may be that we have some policy that we should pursue in the Persian Gulf, but certainly we should not ignore the law.

And I particularly agree with the Senator, when we ask a Supreme Court nominee what his views are on the War Powers Act, which is to say, "Will you apply a check that is under the law?" We should ask the same to ourselves and we should apply that check.

The Framers of the Constitution divided the power on war, and they gave the power to declare war to the Congress of the United States, not to the Executive. They gave foreign policy power to the President. And we are in that area between the two, and that has been decided and settled by a statute.

If we do not want to apply this War Powers Act, then let us get it off the books. But if it is there, each of us, under our oath that we have undertaken—the Senator from Connecticut, the Senator from Washington, and other Members of the Senate—should apply the statute as it is there. I do not think there is any factual question in the world anymore that we are involved in imminent hostilities.

I regret that the Senator has to bring this up again and that we were not successful the other day. I just want the Senator to know that, as far as this Senator is concerned, where there is breath and body, I will attempt to try to uphold that law that says that when our troops are committed into imminent hostilities—which they certainly are—that we as Members of the Congress should vote on their action.

I think the Senator should bring this up and I think that we should proceed with it and let us try to think of a way we can apply the check to the executive branch that is provided in the Constitution by this statute. And if the Senator pursues it and other Senators pursue it, I intend to support the matter.

I thank the Senator for yielding.

Mr. WEICKER. I thank my distinguished colleague from Washington for articulating precisely what is at issue here, because there are going to be those that stand up and say to vote for implementation or for triggering the War Powers Act, to vote that way means that you are against the U.S. presence in the gulf. It does not mean that at all. That is a separate vote.

All it means is that you are voting for reality, for the truth, and for the law. Period. And you can take it from there.

Maybe it is that there are those that will extend the time permitted the President to keep troops in the gulf. Maybe it is. That is not the issue. Or maybe those that want immediate withdrawal, because that also comes under the War Powers Act; or maybe those that say 60 to 90 days is sufficient—that is a separate issue.

All that we are trying to do here is to make sure that precedent, and that is what we are establishing, defines the word "hostilities." That is all we are trying to do.

If you say that what has happened in recent days is not hostilities, then that defines the word and that is precedent forever.

At what point do you have hostilities? So do not let anybody be embarrassed by someone saying: well, there are those who want to cut and run. There are those who want to withdraw.

Some of us do feel that is an ill-advised policy but that is not what I am going to debate here today and neither

am I going to accept it as a valid argument against the enactment of this amendment.

The war power resolution is treated as if this were some sort of a debatable item. It is the law. If the President does not want to obey the law, if he feels it is unconstitutional, challenge it. But until it is challenged and overturned or repealed, it is the law. And the word is "hostilities." To me that does not require much imagining insofar as its definition is concerned.

The U.S. Senate flew in the face of all reality, given that opportunity, when Senator HATFIELD offered his amendment last week. The Senator has a pretty good nose for these things in the course of history, I think. We all realize it is not a new-found interest of his. He has a pretty good nose for where things lead.

The Senate rejected that opportunity. I am sure that many rejected it with the hope that this is all going to turn out all right. It is just like the last time. You know, one marine, that does not get anybody too excited. It does me; that is quite enough. Two marines does not get anybody too excited. Two hundred and forty, boy, we cannot ignore that.

I do not think we can ignore any longer the reality of the Persian Gulf. I think the American people have the right to express themselves on this matter and especially express themselves on the matter of whether the determination of the price to be paid in resources and life is to be made by 535 or by 1.

The President does not derive his Presidency from being Commander in Chief.

Jake Javits articulates that in this article. He derives being Commander in Chief from his Presidency.

It is high time this Nation either accepts this constitutional Government, which we are now celebrating, or it seeks something more expeditious. But as long as we have that Constitution and the laws enacted under it, I suggest among all the citizens, this body should lead in obeying the law.

Mr. President, I yield now to my distinguished colleague from Oregon, Senator HATFIELD.

The PRESIDING OFFICER (Mr. SANFORD). The Senator from Oregon.

Mr. HATFIELD. I am indebted to my colleague. He is a man I have admired for many years and who has never failed to take the courageous stand, often against great opposition. Again he has demonstrated that commitment here tonight.

Mr. President, I am not going to engage in a long soliloquy on my concerns about the current situation. This particular debate tonight may be for naught, given the imminent offering of an amendment that could be a substitute or an alternative to the real question of the war powers resolution.

We may again be entering into one of those very interesting and somewhat confusing exercises of the U.S. Senate, demonstrated so often in this body, when we reach a point of perhaps making a vote or making a decision on a very specific and very profound issue. Because there is a necessity to find ways to save face, those who have gone so far out on a limb, may offer us a substitute to the real issue that further confuses a situation rather than clarifying it. I do not know if that is going to happen but it has happened in the past. Most frequently it has taken on the character of what we call a sense-of-the-Senate resolution, which is not worth the paper it is written on because it is nonbinding.

Mr. President, when the Senator from Connecticut, the Senator from Washington, the Senator from Arkansas, the Senator from Alaska, and others debated last Friday, there was no great problem defining the words "hostile" or "imminent," the triggers of the War Powers Act. In fact, the Department of Defense, on August 26, defined the situation in the Persian Gulf as one of imminent danger because they wanted to increase the pay of the military personnel assigned in the region.

It is very interesting to think of the discussion of this issue only last Friday and to think of what has happened since then. I would like to quote certain of our colleagues from that debate because I think the quotes illustrate the reality that we ignored the issue last Friday. There is no reason we should continue to ignore reality on Tuesday or on Wednesday.

Listen to the comments last Friday of those who led the opposition to our amendment. I quote:

I think the word "imminent" is very important. I do not believe, based on the evidence I have seen and heard, that we could say that we are likely to get into hostilities at any moment in the Persian Gulf.

That is only last Friday.

Listen to another:

It comes down to factual distinctions as to whether or not our men and women are in imminent danger in this area.

Listen to another:

Certainly the War Powers Act is the law of the land but I would like to ask: define what "hostile action" is. What is "hostile"? That is what we are talking about.

Can anyone in the light of reason, sanity, intelligence, competency or any other measurement declare that there is any doubt whatsoever, any shadow of doubt left, as to what constitutes hostility or hostile action or imminent danger after the events in the last 24 hours?

I would say to the Senator from Connecticut, I may have a nose but he has a sense of timing. Perhaps my timing was off, perhaps Senator ADAMS' timing was off last Friday. I confer the compliment—I may have a

nose but you have the timing. The events that have occurred in the last 24 hours have totally demolished any reasonable argument that somehow our ships and our men and women are not in "imminent danger" of hostilities.

I understand that someone went to the dictionary to find out what the dictionary said about "hostile." Well, let me put that in the RECORD.

Hostile is "opposed in feeling, action, or character; characterized by antagonism."

Even last Friday, how could anyone not see that definition in the reality of the events in the Persian Gulf? Over 300 attacks, military attacks, have occurred in the last few years in that region; 40 American people, 40 American servicemen have died in that region.

The Senator from Connecticut has asked what the threshold is for triggering the War Powers Act.

How many deaths do we have to experience before somehow we reach that magic threshold that moves us from nonhostile to hostile under the definitions of the War Powers Act?

Many, many years ago, in my first session of the legislature in my State in 1951, I had proposed a bill that would require railroads to put drop arms at major intersections in urban centers. The opposition, of course, was immediately formed and came forth with a counterproposal.

Instead of requiring the railroads to do this now, we will amend your proposal to say that upon the occurrence of seven deaths at any intersection the railroads will be required to put the drop arms in as a safety measure.

In other words, set a threshold, we put a premium on how many people we had to kill before we could get action, my response was that it should be a preventive action rather than an action after the fact, so should this.

What is the threshold here? When will this administration and those who oppose our amendment clarify the threshold? When will they accept the fact that is so real—we are in a hostile area and involved in hostile activity?

Well, Mr. President, I again have to reflect a little bit on history. Let me go back a little in history—I recall when we were involved in Vietnam in Southeast Asia.

For the younger folk, let me sort of highlight two or three points of that history, of that involvement.

We were out there for a good and worthy cause, we were told. We had military advisers. From advisers it moved to about 540,000 fighting troops, but never with a congressional declaration of war. The longest war in the history of the United States, the highest casualties.

We never had a congressional declaration of war as required under the Constitution.

We reached a point of gradualism, deeper and deeper into that quicksand. Finally, we reached a point where the argument was not on the national interest, but the President. Rally around the chief, rally around the chief. The tribal instinct. We could no longer deny the President of the United States the full-fledged freedom to pursue this policy of war because to deny him at this point would make a mockery out of the deaths that we already had experienced. Somehow we had to give the President an affirmation of that war policy in order to justify the deaths that had occurred up to that point. Then it went further and further. Not until the American public was aroused—I hate to say this—to the economic impacts of that war as well as to the personal tragedies that so many families suffered did public opinion finally force us to address the war, the price we were paying.

Mr. President, let us not wait until we get that deeply involved in the Persian Gulf. Of course there is another element to the Persian Gulf that did not exist in Vietnam: oil, Mr. President, oil.

I know of no commodity that the average American has demonstrated his willingness to kill for than oil. All I need to do is remind our body of the people who shot others in the gas lines during the Arab boycott because of our marriage to the automobile and our priority of anything for the sake of oil.

I will not recite the history of the fact that we helped fuel Hitler's panzer divisions even into Poland with American exported oil. I do not have to recite the fact that we were willing to provide the oil for the Japanese military machine to invade Manchuria and carry on its war in China for all those years. But now we do not have the oil—its in the Persian Gulf.

We have demonstrated time and time again that when it comes to an ethic and morality related to our demand and appetite for oil we tend to numb our moral indignation.

I would hope that between now and tomorrow, I hope everyone watching will demand that each and every Member of this body take a position on this issue up or down—are we going to commit, potentially commit, future generations or this generation to this war or to a potential war?

This one moment makes me happy to say I was wrong when I voted against television in the Senate. I think the American public ought to speak now.

Often I have heard the regret expressed by people who suffered through Vietnam—"I wish I had spoken up sooner." Here is your chance.

I said, "That is going a little bit far."

Mr. WARNER. Mr. President, I hope at some point others can be heard on this issue. It seems to me out of a sense of fairness that when we initiated this debate this Senator sat down and made it possible for this amendment to be brought up and there was a clear indication that we would have a little comity, and opportunity to address it, before we get into the matter of those of us who supported the action of a few days ago being warmongers.

Mr. HATFIELD. Mr. President, I am going to sit down and give the Senator from Virginia an opportunity to speak. I would never want to take that opportunity away from any colleague.

But there is a very interesting example of public perception here. Go back to history again. Everything was very quickly decided during the debate over Vietnam on the basis of hawks and doves. I happened to be on the negative side of that one, I can assure the Senator from Virginia, to the point where I was considered a friend of Ho Chi Minh, undermining the boys in Vietnam because a simplistic label was hung around my neck. I am not attempting to do that because I have been the victim of that.

But my friend may find it interesting to note that this administration has been criticized by the senior Democratic Party leaders on occasion for following a certain kind of foreign policy. They have simplified the debate by saying "a dangerous foreign policy," "a disastrous foreign policy." And yet, when the time comes to vote on those issues this administration's foreign policy has been affirmed more often than it has been challenged.

We had better show some demonstrated leadership on this issue. We had better face up to the fact that we are ignoring the law deliberately. And we had better admit that there is no way to say we can ignore that law because of definitions of hostility and imminent danger. I think it is about time Congress, instead of standing off and either criticizing the administration or supporting the administration, takes the responsibility that we have assigned to ourselves under the law.

I hope this amendment will be voted on. I am very dubious. I think the strategy now is to avoid that issue, to avoid it by some other parallel move. A substitute or a modification or an indirect amendment of the War Powers Act. We do not want to face up to it.

Mr. WARNER addressed the Chair. The PRESIDING OFFICER. The Senator from Virginia.

Mr. WARNER. Mr. President, when the distinguished Senator from Connecticut brought to this Senator's attention, one of the comanagers of the pending bill, a bill for the authorization of funds for the Department of Defense, his desire to bring forward

this amendment, indeed, I tried to be as cooperative as I could. The amendment is now up, and I am pleased to join my distinguished colleagues in a colloquy on this subject.

First, Mr. President, may I assure those present and others listening that I have been in communication with the White House and the President is well aware of this situation and intends to send forth to the Congress in a very short period of time a report describing in some detail this incident last night and stating the other conclusions that he has with respect to the policy.

That report, Mr. President, would note the existence of the War Powers Act, as did the one in the case of the Libyan participation by our Armed Forces, but it would not in my judgment be pursuant to the War Powers Act, and I think perhaps for a valid reason. I recognize that since the debate on this issue several days ago when Senators of good and clear conscience came forward and voted not at that time to have the Senate invoke the War Powers Act, that is, to put on this bill an amendment which had the effect, should this bill become law, of triggering the War Powers Act. They did so in good conscience and at that time there was a certain factual situation which was discussed freely on both sides of the aisle. Indeed, I think the vote was largely bipartisan. But I acknowledge the facts have changed.

It seems to me that we should provide our President with the opportunity to come forward, as he has done in similar instances, to inform the Congress by way of a written report, and that I can assure my colleagues is being done.

Now, Mr. President, let us go back for a moment because in a sense I am suggesting that we need a little time within which our President can inform the Congress in writing, let us go back and look at the background. Indeed, my distinguished colleague was here and has a knowledge of the background of the War Powers Act. But it was done against the Vietnam experience, done against the experience of this Nation in Korea, and indeed in World War II when we were contemplating major engagements.

The world has changed, and in this particular instance last night, we witnessed an unexpected, a darting out, should we say, of forces with a belligerent intention toward American forces. It is not a clear case that this Nation could be involved in a prolonged confrontation of hostilities. So I think it is important that we look at such a factual distinction in light of the background of this law.

I urge all my colleagues to address, perhaps here in a few moments, my thoughts that the U.N. Security Council at this time is looking at this issue

in the Persian Gulf—looking at it, I think, largely because of the steadfast determination of the United States of America to utilize its forces on behalf of peace in that region.

The President committed forces of the United States of America to provide for security of certain elements of shipping in that gulf. That situation has vacillated back and forth, and for a while I think there were hopes raised that maybe Iran and, indeed, Iraq, the two belligerents, recognized that they should slow this conflict down and reflect on the actions of the United States. Then, unfortunately, another hostile act took place in the Gulf of Oman, the sinking of a ship. That crisis brought our allies into this situation. The President of the United States had continuously urged our allies to take a more active role. The United Kingdom has had forces in the Persian Gulf for many, many years, indeed, preceding the U.S. presence. Likewise, the French have had forces there. They were there at the time of the tragic strike on the U.S.S. *Stark*. Since that time, they have increased their military presence in the area. So we now see other allies besides the United Kingdom and France coming in. We have seen increased participation by the gulf states, perhaps not in a formal sense, but we all know from the briefings—indeed, we had a briefing not more than a few hours ago of Senators by representatives from the Joint Chiefs of Staff, so this body is being given the opportunity to keep informed, Mr. President—that the gulf states are taking a more active role in trying to support not just the U.S. forces but, indeed, the allies and other friendly nations that are responding to the call to bring peace.

If you look at the composite of the Security Council action, the participation by our allies, and the participation by the gulf states, it seems that there is a very decisive atmosphere that hopefully will be conducive to the two belligerents—not just Iran but both belligerents—to begin to face reality and cease these hostilities.

Recognizing those situations, recognizing that our President is contemplating sending a report to the Congress, I wonder if the proponents of this amendment would consider a reasonable period of time—I am not asking for it formally but just generally speaking—within which to allow some good, hard, sober reflection on this situation by the President, by our allies, by the gulf states, and by the U.N. Security Council.

I am not certain just what that reasonable period of time might be, but when we address this measure again—I understand from the majority leader we have other pressing items of business before the Senate tomorrow, but we will return to this measure and under the unanimous consent request

the proponents of this amendment will be recognized and thereafter the majority leader—it is my hope that within that short period of time we can reflect on the situation and perhaps devise some means by which to accommodate interests other than the United States that are actively involved in that gulf situation with their young men and, indeed, in some instances women of their armed forces assuming risks just as are our forces.

So, I think Congress should reflect, before we dart out, acting unilaterally, and give recognition to the participation of many, many others working in concert to achieve a more peaceful situation in the gulf.

Mr. WEICKER. Mr. President, to respond to the very articulate comments of my friend from Virginia, and they were articulate, first let me express pleasure at the news that we are going to hear from the President. At least there is some movement, for whatever reason.

I am sure the movement started with the amendment of the distinguished Senator from Oregon last week, and I am delighted to hear there is further movement now.

So I welcome those remarks. Without in any way being disparaging—because I think the distinguished Senator from Virginia knows the personal affection which I hold, and I might add the professional affection which I hold for him—aside from these remarks, the rest of the remarks had nothing to do with the amendment that I have before the Senate. It was a very good recapitulation of what has transpired in the gulf.

But I made the point during my presentation that that was not the argument before the Senate, whether we should be there, how long, what forces, and with what allies. It was merely as to whether or not the requirements had been fulfilled in defining the word "hostilities" in the law of the land.

All I am saying to my distinguished colleague from Virginia is that up to this point, and as has been eloquently stated by Senator HEFLIN, we just have chosen to ignore reality. Let me cite.

My good friend from Oregon cited a little piece of history about his earlier political days. Do you know what this reminds me of, Senator? I was a member of the Connecticut State Legislature for 6 years. By law the State legislature has to adjourn on a particular day at 11:59, in other words p.m.; when the clock strikes 12, that is it, you are out.

Do you know what they used to do? They used to turn the clock back a half an hour and some guy used to hang on to it in some fashion so the clock would not go ahead and move.

That may be all right when it comes to some of the tactics of the State leg-

islature. But it certainly does not befit this body or the Government of the United States, and certainly not when dealing with a matter of such seriousness, a matter of life and death.

It was not 11:30. It was past midnight in that State legislature. It is past midnight on this issue demanding a response by the Senate of the United States. Then we can get into the debate, as I said before, and as has been well phrased by the distinguished Senator from Virginia, as to the merits of our presence and what our policies should be.

I do not intend, in other words, to get into that trap because that can blind you to what our mission is now. What our mission is now—and I repeat and I am through for the evening—is we are setting precedent in the definition of the word "hostility." And in defining that word, we set precedent for all future generations as to what it is this Nation and its leadership, the President and the Congress, can or cannot do. That is the narrow issue which we have to decide.

I hope that in that decision no partisanship or philosophy enters in—merely simple, straightforward, common sense, and intelligence.

Time? My good friend from Virginia, we have already gone quite a way down the road from the day that we all opened our newspaper and read there was going to be a new policy of sending some American assistance into the gulf. That has grown to a mighty armada. It is a mighty armada. And I have to say that it is my intention to press this matter, and press it hard. My colleagues may be thrown off center by some sense-of-the-Senate resolution. Maybe they will be. But then they have to take on their shoulders the burden that attaches, that is as a result of our avoidance or our self-imposed blindness to the law. We as much as any other adversary are responsible for the lives of our neighbors.

Mr. WARNER addressed the Chair.

Mr. HATFIELD addressed the Chair.

The PRESIDING OFFICER. The Senator from Virginia.

Mr. WARNER. Mr. President, I am happy to yield the floor after just a comment.

Mr. President, it is fortunate that this debate takes place among very good, close, personal, professional friends. I think we are, in a nearly dispassionate way, looking at a very difficult situation. I recognize it is the law of the land. We can all cite instances in which this body has looked the other way from time to time. And if I may reminisce for a moment, I remember in that seat right there, Harry F. Byrd, Jr., sat for many years, the senior Senator from Virginia, a man that we all respect in many ways, par-

ticularly for his knowledge of the fiscal policies of the United States, and his concern, the deep concern, about the direction in which our Nation was moving with the deficit. Each year he would put on the books a simple amendment, not more than three or four lines, which said that the United States of America cannot expend a sum of money greater than the sum it takes in through primarily taxes and other sources.

Each year he would make a famous speech back here on the floor of the Senate. He would get up and read his amendment as we would sit around, and I was part of it, and the distinguished ranking member of the Appropriations Committee, prior thereto the chairman of the Appropriations Committee, had no other alternative facing the dilemma of shutting down the Federal Government, the dilemma of bills, the dilemma to fund the securities, and the forces of the United States than to watch that law be violated.

So much for my story about what this body does when faced with the reality. But we all remember that chapter, and then many other chapters. But I come back to the touching comment and indeed having had the privilege of serving in uniform for my country on two occasions, I, too, am deeply concerned about the safety of the men and women of the Armed Forces, the safety of the men and women of the Armed Forces of other nations, and the safety of the people that live in the gulf region. There is no limit to the compassion that every one of us have for those individuals.

But we recognize this is not a perfect world; far from it—an imperfect world—and we are faced with an imperfect situation, one in which we have never had before in my recollection of the history of this country. We are doing the very best we can.

As a matter of fact, the other night some of us had dinner with Mr. Shevardnadze, the Foreign Minister of the Soviet Union. I asked him the question. "Look, this situation is intolerable to the United States, the Soviet Union, and indeed the free world." And he rather acknowledged that. He said, you know, this is the opportunity for the Security Council to regain much of the ground it has lost in the esteem of the world, and to stand up and be counted as it was envisioned at the time that Council was created under the United Nations Charter, and to let them step in. That is the forum in which the United States and the Soviet Union should work to try to resolve the situation.

My concern is if the Congress were to trigger the War Powers Act at the very time that the Security Council is addressing this issue, it would give an option to those who do not want to face up to the need to make a tough

decision on embargo of arms and simply postpone it, and say, "Well, let us wait until the outcome of the congressional debate on the War Powers Act because it may well be that the President of the United States, represented at this Security Council by General Vernon Walters, now our Ambassador there, will lack the authority so that the United States would not be able to come in there with its Armed Forces and fulfill its commitment. It would not have the ability to bolster the policies of France, Great Britain, and other nations to come in there with the elements of their Armed Forces to try to show this coalition of countries on an informal basis to bring peace."

That is my concern. Therefore, I share with the Senators the concern of the fate of our people and other people there. But I do not know of a quick option to solve this. I am not certain that if we got in here and started a debate and held this Chamber in continuous session, we could come out with a policy that would be any better than the policy now being followed by the President.

So I appreciate the recognition by my colleagues of the uniqueness of this situation.

The President will be forwarding a report, not technically in accordance with the War Powers Act, but as he has done before and as other Presidents have done.

This is not a partisan issue. We all know that Presidents, both Democrat and Republican, have seen fit not to invoke the War Powers Act.

I recognize the right of my colleagues to bring this up. I think they have done so fairly and as dispassionately as they can. Let us hope that in the next several days we can see a way to resolve this issue in a course of action that will not disrupt the U.N. Security Council, that will not send a frightening signal to the GCC. Mind you, they are in a locked situation. If we were to pull out, Iran would devour them in a short time. Let us not disturb our allies and indicate that the United States is committed in any manner with less sincerity than those allies and other friends who are participating in the gulf.

I thank my good friends for according me the courtesy of listening to my viewpoints on this very difficult issue.

Mr. HATFIELD. Mr. President, I appreciate the concern the Senator from Virginia has expressed. We are not trying to put the President under extraordinary or unnecessary pressure as he pursues a policy which the Senator from Virginia perceives as possibly leading to some kind of resolution through the United Nations. In no way does the amendment that the Senator from Connecticut and I have presented do that. There is no pushing the President into premature actions

or shifts or changes of policy. This is not a push or pull question.

The War Powers Act very carefully states, with all due consideration having been given to the role of the President to repel any imminent danger on behalf of national security, what Thomas Jefferson had to establish with the President in the North African pirate case. He establishes a principle that goes right through our history. Very carefully, this War Powers Act provided for that extraordinary circumstance.

When he introduces troops or military force, the President is required under the War Powers Act to notify Congress in 48 hours. In no way does the act say that it was other than a notification—it was not any kind of blueprint policy for action, no guarantee of a result. It was a notification.

Mr. President, after that notification, it says that the President has 60 days to communicate or to assess the situation, to make a judgment, to make an evaluation, to provide opportunity for negotiations. And then a 30 day extension on the 60 days.

If we invoked the War Powers Act tonight, the President of the United States would have 90 days, through a partnership relation established by this law, to pursue a policy that he has established and to prove that policy.

Mr. President, let us assume that at the end of that 90 days Congress is forced to make a decision, let us assume that in that choice we authorize the continuation of the policy. There is no abrupt ending of that policy at the end of 90 days. If the President's policy is justified, if it is policy that can be supported, Congress can then authorize the extension of his policy or our policy.

I say to the Senator from Virginia that there is no cut and run. There is no premature decisionmaking or policy shift that has to occur under the War Powers Act.

Mr. President, I have always appreciated the straightforward manner of the Senator from Virginia. He is a man who is without guile. I have seen him under pressure in different circumstances, in different issues and debates, and have always had complete trust and a belief in his purpose and in the role he plays. I think tonight he demonstrated those qualities again.

He spoke of the former Senator from Virginia in an example of how this body has ignored the law, and there is no question about it. We have done it probably more in the budgetary and appropriations process than any other process in this body.

However, I think that when you are dealing with a matter of war and peace it is a different issue. Remember Vietnam? We were dealing with something that is so recent in our history, a war in which this body felt we had

been somehow lured or suckered in, or that we had been given too little information, and all of a sudden we awakened to the fact that we were in the midst of a war from which we could not extricate ourselves. We resolved in this body to never let those circumstances happen again.

In part, we were responding to the American public's demand that Congress take its role under the Constitution. The Constitution provided us with a war-making as well as a war-declaring role—something more than the appropriation of money to carry out the war. We therefore set forth the War Powers Act. That is all the Senator from Connecticut and I and others are asking this body to do—to let it operate or to initiate its operation if ignored, as it has been, by the President.

It is still our joint responsibility to make that act work, not just the President's. If the President chooses to ignore it, so be it. But that does not justify our ignoring the law and not taking such steps as this amendment would to trigger us to respect the law of the land. We must put ourselves into full partnership—the Congress of the United States with the Chief Executive of this country in a policy that could, in effect, lead us and get us into war. We must take responsibility for it.

I do not feel that we are impinging upon the prerogatives of the President. I join the Senator from Virginia in saying that I have resisted many times on this floor—and he can look at the record of my votes—when I felt there was an impingement upon the Chief Executive's constitutional role to conduct foreign relations. The only time I have ever supported the action of this body that had any kind of objective of somehow defining the conduct of foreign relations has been purely at the appropriation level, that "no funds herein appropriated," and that is the legitimate approach, rather than trying to do it as an authorization or a deauthorization or a circumvention of the President's basic constitutional rights. But I do not believe this amendment does that, I say to the Senator, it does not circumvent his rights. It simply underscores ours.

Mr. WARNER. Mr. President, I thank my distinguished friend and colleague for his comments of a personal nature. Those things are long remembered by those of us in this body who labor through the night sometimes.

However, there is a question, and I do not do this in the sense of trying to attack the Senator. I do it simply to try to inform myself and others who are following this as to precisely what the intent of the amendment was and whether or not that intent is consistent with what I think it does.

As I understand the amendment—and as I read the law—for example, the amendment reads:

Therefore, the Congress declares that the report described in section 4(a)(1) of the War Powers Resolution is required to be submitted to the Congress by the President pursuant to such section not later than 48 hours after the attack referred to in subsection (a)(2) of this section.

To review quickly a hypothetical process here, suppose the Senate did vote this amendment that cannot be tomorrow but possibly on Thursday. Then this bill, the pending DOD bill, is probably going to be considered by this body, that is other portions of the bill, for some several days.

Hypothetically, let us say the bill was finished next Wednesday.

Now that is roughly the latter part of September. Just how quickly the House and the Senate can go to a conference is indeterminate, but let us say within a period of 3 weeks a conference has been held, the House and the Senate resolves such differences as they may have and then this amendment remains in and we send a bill to the President. That would occur the third week in October.

The President then has a period of time under the law during which he can consider it. I think he happens to be of a mind to veto the bill now for reasons other than this one, although this amendment I am sure would have the result of his considering a veto, and I do not say that facetiously. But right now the Levin-Nunn amendment is something that the President, and I support the President in his conclusion, cannot accept.

Let us assume hypothetically that the bill is not vetoed and that this then became a part of the law that became effective November 1.

Now, as I read the amendment, would it have the effect of saying that Congress would then begin a debate after the report is filed? When does this 60-day period begin? Or is the drafting of the amendment such that it is retroactive and the 60 days will have expired as a consequence of the legislative process taking place on this particular pending measure to which it is attached?

Mr. WEICKER. I would respond to my good friend from Virginia that obviously the amendment does not take effect until the bill is enacted into law. That is just plain common sense, the same common sense that tells me what hostilities are.

Mr. WARNER. Mr. President, I know that, I realize that.

Mr. WEICKER. In response to the Senator, the Senator can say, well, you know, we do not know what is going to happen, but at least we would have discharged our obligations. We can do no more than that.

What my objection is is that we do not discharge our obligation within the constitutional process, and for those who say that is going to take a long time, believe me that is a short time compared to the months and to

the years that these matters drag out as has been correctly historically stated by the distinguished Senator from Oregon.

So my answer to the distinguished Senator from Virginia is I can only be held accountable for that which is my responsibility when the moment comes for me to discharge my responsibility. As to when it takes effect, that depends obviously on the passage through the remainder of the constitutional process.

Mr. WARNER. Let me pause once again to ask if this amendment then becomes law on November 1 but the Senator put in the triggering mechanism that the President had to file a report 48 hours after the attack referred to in subsection A(2) of this section. The attack occurred within the past 24 hours, so when—

Mr. WEICKER. If the distinguished Senator wants me to say it on the floor I will. The President is in violation of the law right now.

Mr. WARNER. I understand that assertion. I am just trying to clarify the provision of the amendment. When is that report to be filed?

Mr. WEICKER. The language used in the amendment is the language of the law, the war powers resolution.

Mr. WARNER. So when, in the Senator's judgment, should that report be filed under this amendment?

Mr. WEICKER. That report should have been filed promptly under a reasonable definition of hostilities when our first ships went into the gulf. I am saying in any event that report has to be filed 48 hours from the actual occurrence of the hostility.

Mr. WARNER. I acknowledge that. That is the way the law reads. The Senator has recited the law, but I am trying to determine whether or not the amendment has the effect, if this amendment becomes law on November 1, of being of a retroactive nature. That is the question.

Mr. WEICKER. No. It requires of the President that which the law requires. I cannot do any more in this position than to try to see the law fulfilled. The President has already disregarded it. I choose not giving any opportunity to disregard.

Mr. WARNER. We can further debate the interpretation of the amendment.

I conclude my remarks tonight by simply saying that were the Senate to vote affirmatively for this amendment here in the next 48 to 72 hours, whatever the case may be, depending on the Legislative Calendar, we may be triggering an arbitrary period of time to report, depending on the action of this bill, the interpretation of the amendment, and the time that action is described by the press, and I am not suggesting the press will necessarily be in error. They will be accurate as to

what this body did, but the interpretation of that announcement as it rolls over the ocean will read in the gulf newspapers "Congress Invokes the War Powers Act."

Mr. WEICKER. That is correct.

Mr. WARNER. When in fact it would not be invoked, as I read the amendment, until November 1, using that date as to when this might be signed into law.

So immediately the whole gulf situation goes into a question of uncertainty because it appears to the residents of that area that the War Powers Act has been invoked. We run a risk, and a risk that I say to the Senator is high-stakes poker, in view of the participation of our allies, participation by the Gulf States, the participation by the Security Council, to try to work in some combination of law and order in bringing this to an end.

Mr. WEICKER. To my distinguished colleague I will make my final comment, I think his comments are certainly direct in good measure; however, it is not the United Nations that is charged with the responsibility of lives and resources of people of America. It is the U.S. Senate, the House, and the President. It is not the Supreme Court in this matter. It is the President, and the Senate and the House. It is toward the discharge of that responsibility that this amendment is before the Chamber. I hope that there will be the courage from this Chamber to face up to the responsibilities placed upon us by law rather than trying to shuttle them off to some other political institution.

I yield the floor.

DOD PURCHASE OF TYPEWRITERS MANUFACTURED IN WARSAW PACT STATES

● Mr. D'AMATO. Mr. President, last Thursday, the Senate adopted an amendment proposed by my friend, the distinguished senior Senator from Illinois. This amendment, Senate Amendment No. 687, was approved by rollcall vote No. 249 by a vote of yea 53, nay 41. I voted nay.

I voted against his amendment because, if it is signed into law, it would repeal an amendment I sponsored. My amendment, which was first enacted into law in 1981, prohibits expenditure of appropriated funds for the purchase of manual typewriters manufactured in any Warsaw pact state.

In Public Law 99-500, my amendment is section 9039, which reads as follows:

None of the funds available to the Department of Defense shall be available for the procurement of manual typewriters which were manufactured by facilities located within states which are signatories to the Warsaw Pact.

This section has been a general provision in every Defense appropriation bill since 1981.

I authored that amendment for national security reasons, reasons which

remain valid today. I will defend my position when we consider the Defense appropriations bill for fiscal year 1988 later in this session.

In Poor Richard's Almanac, in June 1758, Benjamin Franklin wrote:

For want of a nail a shoe was lost, for want of a shoe a horse was lost, and for want of a horse the rider was lost; being overtaken and slain by the enemy, all for want of care about a horse-shoe nail.

Since last week was the bicentennial week of the signing of the U.S. Constitution, it is appropriate for us to take to heart the wisdom of its oldest signer.

Where the Defense Department purchases its manual typewriters occupies much the same prominence in our concerns today as horseshoe nails occupied in the Founding Fathers' concerns. However, as Franklin's proverb was intended to demonstrate, negligence about seemingly small details can cost lives and battles in war.

Warsaw Pact-made manual typewriters on a clerk's desk in the Pentagon don't directly threaten our national security. However, Warsaw Pact-made manual typewriters in a parachute battalion's tactical operations center—its combat headquarters—very well might be the modern equivalent of Ben Franklin's horseshoe nail.

I know that many of my colleagues have had the privilege of visiting U.S. military units in the field. These visits normally include a stop at the unit's command post.

If you stand in the middle of a battalion or brigade tactical operations center and look at the typewriters on the desks of the headquarters personnel, you will notice that they are all manual typewriters. This is so because electric power is not always available in the field and these units need their typewriters.

Our Armed Forces—for whatever reason—have an insatiable appetite for paperwork. The logistics, transportation, and personnel systems which support our armed services live on paperwork—on properly, legibly completed forms.

Accurate, timely written communications are essential to the operation of our combat forces, and these manual typewriters are essential to our ability to communicate legibly in writing. In important ways, they are just as vital as rifles.

To win, we must "get there furthest with the mostest," as Nathan Bedford Forrest, a famous Confederate general, reportedly said. In simple words, this means getting our combat units to the right place at the right time, and being able to support them in combat until they are victorious. Having our supply, personnel, and transportation documents completed on Warsaw Pact typewriters does not strike me as the best way to do this.

I ask my colleagues, would we buy our rifles from a Warsaw Pact manufacturer? This measure makes just about as much sense as a proposal to buy our soldiers' rifles from them.

I do not believe it is wise for us to purchase these typewriters from factories located in states that are members of a hostile alliance. What happens if tensions should rise and these factories suddenly stop shipping repair parts to us?

How long would it take to replace these typewriters with typewriters which are manufactured outside the Warsaw Pact, or to reverse engineer these machines and develop a domestic source for them and their spare parts?

The senior Senator from Illinois argued, and here I quote from page S12254 of September 17th's CONGRESSIONAL RECORD, that

... National security will not be affected by the potential purchase of Polish typewriters. The Predom typewriter is licensed for production to Poland by a Swedish company. Consequently, parts for the typewriters are available from Sweden, West Germany, and Switzerland. Also, parts to cover any contingency are stocked by the American distributor. In the event of war, typewriters already purchased by DOD will be easily serviced.

In case my colleagues overlooked this point during last Thursday's debate, let me point out that all of the countries mentioned as sources for spare parts are in the middle of the European theater of war, in the zone most likely to be affected first by a Warsaw Pact attack on NATO. In contrast, Brazilian sources of supply and the lines of transportation between Brazil and the United States are unlikely to be interdicted in even a major, protracted conventional conflict.

There is serious question, in the event of a major conventional war between NATO and the Warsaw Pact, whether we would be able to freely purchase and transport parts from factories in Sweden, Switzerland, and West Germany. There is, in fact, room for doubt about whether the factories making these parts would still exist after several weeks of war. We might even have to ask Soviet occupation authorities for permission to deal with these factories if they remained in production.

No. U.S. distributor will maintain at no cost to the Government a large enough stock of spare parts to support these Predom typewriters for the duration of a war lasting longer than a year. Either the Government will have to purchase and store this stock of spare parts itself, or require the distributor to maintain such a stock as part of the procurement contract, and pay for it.

The cost savings my colleagues asserted this amendment would achieve

may not be real after all—if we take a prudent course of action and prepare to sustain our forces for more than a 90-day war. Otherwise, we are trading the attractive promise of cost savings for a hidden increase in risk to our forces. Since the increased risk can't be readily quantified, but the cost savings can, it appears that the taxpayer is getting a good deal. This is a false economy—saving pennies now, that may have to be redeemed in the blood of our soldiers later.

It is true that military forms can be filled out by hand. Unfortunately, as most of us know from personal experience, the average person's handwriting is not legible. When a unit is locked in battle and it needs ammunition, food, fuel, spare parts, or replacements, its survival must not depend upon a clerk's ability to decipher correctly hastily scrawled messages.

I drafted my original amendment to correct an outrageous situation. East Germany—the German Democratic Republic—was dumping manual typewriters on the United States market at prices far under its cost of production. This activity harmed no U.S. firms, because no manual typewriters are manufactured in this country. The General Services Administration was procuring manual typewriters in huge numbers for the entire U.S. Government, and the Defense Department was filling its needs from these GSA procurements.

As a result, many United States military units equipped with manual typewriters received new East German typewriters from the United States supply system. The other major Western nation which manufactures manual typewriters, Brazil, wanted to compete for these GSA procurements but was priced out of the market. I found this situation unacceptable. While I was unable to address the GSA's procurement activities, I was able to correct the problem within the Department of Defense.

The distinguished senior Senator from Illinois quoted a letter to him from Robert B. Costello, the Assistant Secretary of Defense for Production and Logistics, to the effect that "the Department of Defense 'views the continuance of the restriction'—on Warsaw Pact typewriters—'as a matter of congressional discretion.'" While the Department may have registered no opposition to the Dixon amendment, in this year's defense budget submission, it requested neither repeal nor amendment of my provision, which has been in force since 1982.

The Dixon amendment allows expenditure of Defense Department procurement funds to purchase manual typewriters if one or more component of these typewriters is manufactured in a Warsaw Pact state, only if that state "has a most favored nation trading status with the United States." At

this time, only three Warsaw Pact states meet this requirement—Hungary, Romania, and Poland.

As my colleagues know, the Senate has voted, in an amendment to the trade bill which is still in conference, to suspend for 6 months Romania's most-favored-nation trade status. If that provision survives conference, Poland and Hungary are the only pact states which will have this status once the trade bill is signed into law.

If the Romanian MFN provision does not survive conference, or if the President vetoes the trade bill and his veto is sustained, this amendment will allow Romania to bid upon and win Defense Department procurement contracts. As a Senator who voted to suspend Romania's MFN status, I believe this is a major flaw in the proposed amendment, one of sufficient magnitude all by itself to justify the defeat of the amendment.

Since the President has let it be known that he strongly opposes several of the provisions in the trade bill and would likely veto the bill if these provisions remain in the final version, Romania could well be eligible to compete for these procurements. This is an entirely unacceptable result.

There is nothing good to be said about this amendment. Arguments that it will save money in the defense budget are shortsighted in the extreme. Any money we save now we may have to repay later with the lives of our soldiers. This is the worst sort of defense economy.

I strongly oppose this amendment. It should have been defeated. Since it has passed, I will work to ensure that it does not survive conference. If it should be signed into law, I will fight to ensure that my amendment remains a part of our defense appropriations bill, so that as the last expression of the will of Congress, it will bar the operation of this amendment.

In closing, I say to my colleagues that this amendment should not have passed. If appears innocuous, but I assure you that it is not. Before the Senate again addresses this issue, I will be prepared to make a more detailed presentation setting forth specifics concerning its negative effects. Yesterday's action, you may rest assured, is not the last word on this issue.●

MICHAEL P. METCALF AN UNTIMELY DEATH

Mr. PELL. Mr. President, I rise to share with my colleagues in the Senate the news of the untimely death of Michael Pierce Metcalf, chairman and chief executive officer of the Providence Journal Co. and publisher of Rhode Island's only statewide newspaper—the Journal-Bulletin.

Under the guidance of Michael Metcalf since 1979 both the newspapers

and the parent company have made rapid and effective use of modern technology. Under his leadership, the Providence Journal and the Evening Bulletin moved into advanced production techniques.

World news now is gathered on satellite dishes and the newspapers are written and edited with the help of the latest computers. Michael Metcalf, by a tragic irony, died on the day the newspapers proudly unveiled his latest initiative, a new, state-of-the-art flexographic production plant in Providence.

Rhode Island will miss his vision and his commitment to charting a new and bold course for the Providence Journal Co. I know that I speak for all Rhode Islanders when I express my deepest sympathy to his wife and family.

Mr. President, I ask unanimous consent that an article about Michael P. Metcalf from the Providence Journal of September 21, 1987 and an editorial about his works from the Providence Journal of September 22, 1987 be reprinted in the CONGRESSIONAL RECORD.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

MICHAEL P. METCALF, PUBLISHER OF JOURNAL,
DIES AT 54 FROM INJURIES

Michael P. Metcalf, 54, the chairman and chief executive officer of the Providence Journal Co. and the publisher of the Providence Journal and Evening Bulletin, died last night in St. Anne's Hospital, Fall River, Mass., of head injuries suffered Sunday, Sept. 13, in a bicycling accident near his summer home in Westport, Mass. He was the husband of the former Charlotte I. Saville.

Descendant of a family that has been a dominant force in the newspaper company since before the turn of the century, Mr. Metcalf broadened the company into a successful operation with substantial interests throughout the country in cable television, broadcasting and telecommunications.

But despite the company's far-flung interests, Mr. Metcalf remained focused on his primary role as publisher of the three newspapers, the Providence Journal, the Evening Bulletin and the Sunday Journal.

He guided the development of the \$60 million production plant on Kinsley Avenue that features a new newspaper printing process known as flexography, which has drawn industry-wide attention.

The plant opened officially on Sept. 13. But even as employees in brightly colored shirts and blouses prepared to greet guests, Mr. Metcalf was undergoing surgery at St. Anne's Hospital.

Receptions planned throughout that week at the new plant were held as scheduled because company officials believed that would have been Mr. Metcalf's wish.

SHUNNED THE LIMELIGHT

Acquaintances and colleagues frequently described Mr. Metcalf as shy, reserved and reticent, a man who often shunned the limelight in a job that sometimes forced it upon him.

But, they said, he was always willing to take a forceful stand when the moment required it.

When Chief U.S. District Judge Francis J. Boyle issued a court order forbidding the newspaper to publish certain information about Raymond J. "Junior" Patriarca, reputed head of organized crime in New England, the newspaper published a story containing that information. Mr. Metcalf defended the newspaper's action this way:

"We viewed our action as the exercise of the fundamental right to free speech, a right which we felt sincerely was being enjoined unconstitutionally by the judge's order."

The newspaper and its executive editor, Charles McCorkle Hauser, were held in contempt but that finding was overturned on appeal.

SHAPED EDITORIAL POLICY

"He took his duties as publisher very seriously," said Stephen Hamblett, Journal Company president and assistant publisher.

Mr. Metcalf's views shaped a largely conservative editorial page that stresses fiscal responsibility at all levels of government, a strong national defense and the effectiveness of the market economy, and expresses reservations about unduly expansive social programs, while remaining sympathetic to peoples' needs.

The editorials also champion access to public meetings, press freedom, the economic development of Rhode Island and preservation of open spaces and the environment.

The news pages of the paper seemed to reflect their publisher's personality. They were not showy or flamboyant. Mr. Metcalf preferred them full of "Hard" news. When they strayed too far into "soft" features, he was apt to counsel caution.

One of the publisher's interest was in improving the community without fanfare.

"He was involved in the community, but in a very low-profile way," Hamblett said.

INITIATED SYMPOSIUMS

When the newspaper was celebrating its 150th anniversary, Mr. Metcalf and other company officials approached Brown University president Howard R. Swearer and proposed co-sponsoring annual symposiums at which nationally recognized experts would join the public in discussing complex and pressing issues of the decade.

Mr. Metcalf participated annually in the planning, Swearer said, and in the selection of topics, such as the revitalization of cities, crime in American and ethical issues in medicine that were important both locally and nationally.

Last year the Journal-Bulletin and the University of Rhode Island Graduate School of Oceanography co-sponsored a one-day symposium on the Future of the Ocean.

Under Mr. Metcalf, the company began investing in downtown Providence.

The Journal's investments in the Biltmore Hotel, now the Omni Biltmore, and the Providence Performing Arts Center were not primarily calculated to make money. Rather, they were Mr. Metcalf's investment in preserving downtown Providence, a commitment that led the company to maintain its headquarters at 75 Fountain St. when others were deserting the city for the suburbs, and later to construct its new printing plant on the fringe of downtown.

MONITORED NEW TECHNOLOGIES

As an entrepreneur, Mr. Metcalf was constantly on the lookout for new opportunities arising from rapidly evolving communications technology.

In recent years this had led to investments in cable television, cellular tele-

phones, electronic data bases and satellite transmission of color separations for advertising purposes.

Journal-Bulletin reporters began typing their stories on video display terminals in 1975, using the most advanced electronic editing systems available at the time. Since then, the system has been steadily upgraded as the technology developed.

The new production plant with its pioneering process was another illustration of Mr. Metcalf's intense curiosity about science and technology and his fascination with high-quality printing techniques. One acquaintance called him "a good printer."

Mr. Metcalf, a Harvard University graduate who later earned a master's degree in business administration at Stanford, joined the Providence Journal Co. in 1962.

Previously, he worked summers in various Journal departments and once, while in the circulation department, drove to Newport with copies of a special edition and sold them on the streets.

Mr. Metcalf was born in Providence on Sept. 1, 1933. After completing his education—which formally began at Providence Country Day School—he served from 1955 to 1957 as a Navy officer, with stints in Newport and the Mediterranean.

REPORTING EXPERIENCE

From 1958 to 1960 he worked as a reporter for the Charlotte (N.C.) Observer. He spent the next two years, before joining the Journal Company, as an advertising salesman for the Philadelphia Bulletin.

He joined the Journal Company in 1962 in the advertising department, and in 1963 moved to the administrative offices as assistant to the president, then John C.A. Watkins.

He was elected executive vice president of the company in 1971, and in 1974 succeeded Watkins as president. He later succeeded Watkins in two other capacities, in 1979 as publisher and in 1985 as chairman of the board.

Under Watkins and later under Mr. Metcalf as chief executive officer, the complexion of the Providence Journal Co. changed dramatically with a number of acquisitions and sales.

MEDIA INVESTMENT

In 1978, the company's Providence Journal Broadcasting Corp. subsidiary acquired its first television station, WPHL-TV in Philadelphia, an independent broadcasting outlet that aired the Philadelphia 76ers National Basketball Association games. The sale of that station, to an investor group headed by Cincinnati broadcasting executive Dudley S. Taft, is at present awaiting Federal Communications Commission approval.

The company acquired independent television stations KMSB in Tucson, Ariz., and KGSW in Albuquerque, N.M., in 1984 and station WHAS in Louisville, Ky., the CBS outlet in that market, in the following year. In April 1985, two long-time Journal Company holdings—radio stations WEAN and WPJB-FM—were sold to Eastern Broadcasting Co.

The Journal Company entered the radio common carrier business in 1983, when another subsidiary, Providence Journal Telecommunications, acquired a 50 percent interest in Communications Properties, which has more than 50,000 paging-system subscribers in North Carolina, South Carolina, Georgia and Tennessee. In 1984 it acquired the assets of Travel Phone, a radio-paging company based in Warwick now known as

MetroNet. The company expanded into the cellular telephone, acquiring Carolina MetroNet in Raleigh, N.C., and Tulsa Cellular Telephone in Tulsa, Okla.

Colony Communications, a subsidiary formed in 1969 to develop cable TV systems, began with a system serving Westerly; by the end of 1986 it had about 221,000 subscribers in 50 communities in five states. In a joint venture with Copley Newspapers, Colony also serves 34,000 subscribers in several California communities.

The Journal Company in 1986 sold its Providence Gravure printing operation—which included plants in Providence, Dallas, Tex., Richmond, Va., Mt. Morris, Ill., and Cary, N.C.—to British Printing & Communications Corp.

SPOKE TO THE POINT

Mr. Metcalf, who maintained a home on Providence's East Side and 1,400-acre farm in Exeter, as well as his summer home in Westport Harbor, was an intensely private person. Public glimpses of his personal philosophy were rare; such disclosures were terse—but to the point.

In one of the early annual symposiums co-sponsored with Brown, Fred W. Friendly, a former president of CBS News, was moderating a panel on nuclear energy that was discussing whether the press had adequately informed the American public in the 1950s and 1960s of the potential dangers of radiation.

The Journal-Bulletin, Mr. Metcalf commented matter-of-factly, had given the issue "more thought than any other newspaper our size in the country." Emphasizing the separation of editorial opinion and reporting, he added that the newspaper's editorials had given "very heavy support on the side of nuclear power, with the obvious reservation that it is not an ideal answer."

In the same symposium, he was asked what the Journal Company newspapers would do if a corporation owner warned that printing a story would mean the loss of thousands of jobs. "Would you print?" Friendly asked.

"Yes," Mr. Metcalf replied.

"Even if it meant 50,000 jobs?"

"That is not the press's job," Mr. Metcalf replied. "The press's job is to print the news—absolutely."

AFFILIATIONS

Mr. Metcalf's paternal grandfather, Stephen O. Metcalf, was elected to the Journal Company's board of directors in 1890 and in 1904 was elected president, a position he held until 1941, when he was succeeded by his son—Michael's father—George Pierce Metcalf. George Metcalf died in 1957.

Michael Metcalf was a member of the boards of directors of Rhode Island Hospital, Trust National Bank, the Newspaper Advertising Bureau, the American Press Institute and the American Newspaper Publishers Association, and was a member of the Brook Club, the Agawam Hunt and the Hope Club.

He was a trustee of Providence Country Day School, the Providence Foundation and the Rhode Island School of Design, and was on the board of directors of the Providence Performing Arts Center.

He had served as a director of the Greater Providence Chamber of Commerce, and was a founder of the Rhode Island Corporation, an investment management firm, and an incorporator of the Greater Providence Foundation.

He also was a partner with Stanley Livingston Jr. in Stillman White Associates, and a

member of the board of directors of the Research and Design Institute, an energy conservation study group.

Mr. Metcalf also had served on the boards of directors of the Rhode Island Historical Society, the Rhode Island Tourist-Travel Association and People's Savings Bank.

Besides his wife he leaves a son, Jesse, and two daughters, Hannah and Lucy, all at home, and two sisters, Esther Elise Mauran and Pauline Cabot Metcalf.

Funeral arrangements were incomplete.

MICHAEL P. METCALF

With the untimely death of Michael Pierce Metcalf, these newspapers and the Rhode Island community have lost a valued friend and leader.

Mr. Metcalf was a vigorous and principled man, with a solid sense of tradition, a deep dedication to his community and a keen sense of the possibilities of change. As chairman and chief executive officer of the Providence Journal Co., and as publisher of the Journal-Bulletin since 1979, he brought this company and these newspapers to new levels of excellence. His tragic death on Sunday, resulting from a bicycle accident Sept. 13 near his summer home in Westport, Mass., has left his staff and this community profoundly saddened. His wife Charlotte and his three children, to all of whom he was deeply devoted, have our utmost sympathies.

Like others whose family roots go deep into Rhode Island's past, Mr. Metcalf sought to preserve and enhance the state's lasting values. He was a devoted benefactor of many institutions, particularly the Rhode Island School of Design, which his forebears had founded. He had led this company in establishing close working contacts with Brown University, most especially the annual Providence Journal/Brown University Public Affairs Conferences that began in 1980.

At the Journal-Bulletin, his colleagues knew him best as a farsighted leader who pointed the newspapers toward the future with energy and vision. He was a man alert to whatever was new, one intrigued by the workings of science and technology. Sooner than many of his fellow publishers, he understood what modern technology could mean for the world of communications.

He helped lead the newspapers into advanced production techniques, with world news gathered on satellite dishes and the newspaper written and edited with the help of the latest computers. By a tragic irony, his fatal accident occurred the day the Journal-Bulletin proudly unveiled his boldest initiative: the company's new state-of-the-art flexographic production plant in Providence.

Mr. Metcalf, born into a manufacturing family with strong ties to the newspaper, gave diligent attention to the challenge of putting out a strong publication each day. He was a striver, determined that the Journal-Bulletin lead the way as a force for progress. He was proud of the staff's contributions, supporting its efforts and participating actively in the ways editorial policy was shaped.

But Mr. Metcalf also saw that modern communications technology held a wider potential. He was instrumental in broadening this company's role as an information provider, expanding its printing plants and developing television and cable television subsidiaries, cellular telephone networks and paging services. By so doing, he strengthened the company's independence and expanded its capacity for community service.

Providence was his home, and he expended care and concern on its well-being. He was among those who led the preservation of the old Loew's Theater, now the Providence Performing Arts Center, and helped bring new life to the Biltmore Hotel. Believing deeply in the city's future, he steeped himself in knowledge of urban planning and design, energized the Downtown Providence Improvement Association and gave enthusiastic backing to the Capital Center Project now reshaping the city's heart. He insisted that the newspaper demand the highest ethical standards of public officials, and let the paper's unrelenting campaign to remove the blight of organized crime from this state.

It should also be said that Michael Metcalf was in his heart a devoted environmentalist, with an abiding concern for husbanding Rhode Island's natural heritage. An avid skier and sailor, he loved the outdoors. He was an ardent believer in preserving open spaces wherever feasible. He saw the need to protect the coastline and restore the sparkle to Narragansett Bay. To these causes, as to many others, he saw that the newspaper's resources were applied with dedication.

His colleagues at the Journal-Bulletin had expected that, in the nature of things, Mr. Metcalf would be on the scene to extend his energies and leadership for another 15 years or more. Now, by the caprice of fate, this is not to be. His death at age 54 marks a sad conclusion to one of the most dynamic eras in the communications company he led.

But Mr. Metcalf's passing does not end the many commitments that the newspapers and the Journal Company have made under him and his predecessors—abiding commitments to excellence, to fairness, to independence and to serving the Rhode Island community. The management team he has built shares those values.

Michael Metcalf charted a courageous new course to lead the Providence Journal Co. toward the 21st Century. His colleagues will strive to see that this course is followed. By such effort we can best honor his memory.

HUMAN RIGHTS VITAL FOR PROGRESS IN RELATIONS WITH PEOPLES' REPUBLIC OF CHINA

Mr. PELL. Mr. President, over 2,000 Tibetans, mostly political prisoners, languish in a prison just north of the capital city of Lhasa. Elderly Catholic priests are held in detention for years at China's White Lake Labor Camp and elsewhere. Prisoners of conscience are beaten and whipped in Chinese detention centers in order to extract confessions. These are but a sample of human rights abuses brought out September 17 in testimony before the Senate Foreign Relations Committee—testimony which also demonstrated that while problems remain, the human rights situation inside China has actually improved in recent years.

Too often we focus solely on the positive aspects of the regime in China. I do not wish to denigrate the many political and economic reforms accomplished under the leadership of Deng Xiaoping. Progress in agriculture, particularly the elimination of

the commune system and the enlargement of family plots, has been impressive, as has the effort to establish market incentives in Chinese industries. The human rights situation has also improved.

These improvements, however, do not mean that significant problems do not remain, that progress is inevitable, or that regressive policies cannot emanate from the 13th Party Congress scheduled to begin next month. What we are witnessing is a continued struggle between reform-minded Chinese leaders and those who would lead the country backward into a more doctrinaire Socialist state with reduced contacts with the West.

By focusing on the overall political direction of the Peoples' Republic of China, as well as the human rights situation therein, the Foreign Relations Committee was able to recognize publicly the progress that has been made in these areas, while also expressing our concern that the favorable trends of recent years not be reversed.

Some Chinese scholars have labeled this process one of "two steps forward, one step backward." What we would like to see, and what the committee seeks to encourage, is a policy of "two steps forward, two more steps forward."

In making this point we were pleased to have the testimony of six distinguished witnesses: Deputy Assistant Secretary of State Stapleton Roy, Prof. Michael Oksenberg, a member of the National Security Council staff during the Carter administration and now on the faculty of the University of Michigan, Prof. Nicholas Lardy of the University of Washington, Mr. John Avedon, a noted author on Tibet, Mr. John Davies, president of Free the Fathers, and Mr. John Healey, executive director of Amnesty International.

It is my belief that the hearing accomplished its purpose of pointing out some of the problems as well as the progress which has taken place in recent years both in China and in our bilateral relations. I believe that a public airing of this type, far from constituting interference in another nation's internal affairs, is a sign of a maturing relationship in which each side is free to express its concerns.

As Professor Oksenberg stated succinctly:

The United States has a high stake in the success of China's modernization efforts. How the Chinese leaders rule their people will have a decisive effect upon the success of the economic development program, and opening to the outside world.

I would conclude by stating that we who consider ourselves friends of China want to encourage China to continue its opening to the West, to involve itself ever more fully in dialog with our own Nation, and to respond

effectively to the needs and aspirations of its own people.

HIGH RISK, LOW RECOGNITION

Mr. HATCH. Mr. President, our Foreign Service officers are often the subjects of criticism, but they perform tasks of critical importance to this Nation in an international environment of increasingly high risk with a constant low recognition factor. Joseph Verner Reed, who served as our Ambassador to Morocco from 1981 to 1985 and as U.S. Representative to the U.N. Economic and Social Council thereafter and who has been serving as Undersecretary General of the United Nations for Political and General Assembly Affairs since July 1, 1987, placed an article in the *Commentary* section of the *Washington Times* on June 29, 1987, which adds the perspective of a participant in foreign affairs at a high level to our view of those in Foreign Service. His article provides us an opportunity to round out our views and understanding, and I submit it as a part of the *RECORD* for that purpose.

[From the *Washington Times*, June 29, 1987]

HIGH RISK, LOW RECOGNITION (By Joseph Reed)

William Palfrey was lost at sea in 1780. Hardy Burton died of yellow fever in 1852. Joseph Granger was murdered in Vietnam in 1965. Phyllis Faraci died in Beirut in 1983.

So goes a long list of diplomatic and consular officers of the United States who lost their lives while on active duty in the U.S. Foreign Service: a group of the brightest, bravest public servants in the world today—the best of the best.

As U.S. strategic, political and economic interests have spanned the globe, our Foreign Service officers have served in increasingly diverse, difficult and even hostile environments. In the first two centuries of the U.S. diplomatic service, 73 American officers lost their lives in the course of duty; in the past two decades alone, 80 more have been added to the list of those killed while serving their country.

The Foreign Services has become a high-risk profession for individuals of enormous intelligences, diplomatic expertise, international experiences and, yes, real heroism. Thus it is ironic that a recent spate of articles in the American press have described a "faded," lackluster Foreign Services beset with problems.

Certainly, the State Department is confronting budgetary constraints which entail serious belt-tightening. However, the Foreign Service I know has not crumbled in the face of fiscal stringency. And certainly, there are the personal travails of those highly qualified individuals who, as in all endeavors, can be unfairly passed by when it comes time for promotion. But in six years of round-the clock contact with the men and women of the Foreign Service, I consistently see qualities of dedication and intelligence which stand in stark contrast to the recent moribund characterizations in the press.

During times when sentiment against "big government" or criticism of administration

policies may cast doubt on the value of a career in the Foreign Service, it is doubly important that the high standards of the Foreign Service and the pride and self-respect of its officers be both preserved and praised.

The Foreign Service of the United States is a lean machine. Out of the 15 million civilian government workers in America, only about 4,000 are the Foreign Service officers who make up the core of our diplomatic representation throughout the world.

Despite the generally negative image that government service has acquired in some quarters in the last decade, that small cadre still captures the imagination and ambition of many highly qualified applicants.

Who are these people? Generally, they are young Americans of uncommon patriotism and ambition leavened by a streak of romanticism and curiosity about the world. You'll see few Yuppies here. These men and women care more for horizons than for stock tickers. Each year, 15,000 to 18,000 young and not-so-young Americans undergo a rigorous examination procedure in hopes of obtaining one of the less than 200 entry-level Foreign Service positions. New entrants' backgrounds are measurably more impressive than in preceding years. For the one person in a hundred who is chosen, the future holds a career—indeed, a way of life—which is substantially different from the "striped pants" stereotype.

U.S. diplomats do on rare occasions still wear a morning suit and sip champagne at posh receptions in exotic foreign capitals. However, if one were to look into a Foreign Service officer's closet, next to the black tie or evening gown would likely hang the bush jacket worn while serving as peace-keeping observer on the Sinai Peninsula or as refugee-assistance officer in Southeast Asia.

Far from home, but far from dispirited, these unique individuals enjoy the rewards of a business that is intrinsically interesting, and they are staying with it as never before. The U.S. Foreign Service's rate of retention is as high as it has ever been.

The Western democracies in general, and the United States in particular, have a duty to themselves and to the world community to maintain that delicate balance between high professional standards and open public criticism which enables public servants to play their indispensable role. But let's give the men and women who have dedicated their lives and careers to the Foreign Service credit where due.

Contrary to the current media picture of dispirited souls moping around the halls of the State Department, these are vividly intelligent people who know exactly what they are about. Call them what you will. But "faded?" Some faded! Witness their expertise, their dedication and, most of all, their loyalty to the national interests of the United States, this all-important task of representing our country and our way of life would be impossible.

It has been said the greatest honor in life is to do a good deed in secret and have it discovered by accident. To that special group called the Foreign Service, whose deeds are rarely discovered and often inadequately rewarded, the honors are many. And for those who lost their lives in this calling, our loss, our debt, is deeply felt.

MESSAGES FROM THE PRESIDENT RECEIVED DURING THE ADJOURNMENT

Under the authority of the order of the Senate of February 3, 1987, the Secretary of the Senate, on September 21, 1987, during the adjournment of the Senate, received a message from the President of the United States, transmitting sundry nominations, which were referred to the appropriate committees.

(The nominations received on September 21, 1987, are printed in today's *RECORD* at the end of the Senate proceedings.)

ANNUAL REPORT OF THE DEPARTMENT OF ENERGY—MESSAGE FROM THE PRESIDENT—PM 67

The PRESIDING OFFICER laid before the Senate the following message from the President of the United States, together with an accompanying report; which was referred to the Committee on Energy and Natural Resources:

To the Congress of the United States:

In accordance with the requirements of Section 657 of the Department of Energy Organization Act (P.L. 95-91; 42 U.S.C. 7267), I hereby transmit the Eighth Annual Report of the Department of Energy.

RONALD REAGAN.
THE WHITE HOUSE, September 22, 1987.

MESSAGES FROM THE HOUSE

ENROLLED BILL AND JOINT RESOLUTIONS SIGNED

At 2:22 p.m., a message from the House of Representatives, delivered by Mr. Berry, one of its reading clerks, announced that the Speaker has signed the following enrolled bill and joint resolutions:

H.R. 1163. An act to amend section 902(e) of the Federal Aviation Act of 1958 to revise criminal penalties relating to certain aviation reports and records offenses;

H.J. Res. 134. Joint resolution designating the week of September 20, 1987, through September 26, 1987, as "Emergency Medical Services Week"; and

H.J. Res. 224. Joint resolution designating the week of October 18, 1987, through October 24, 1987, as "Benign Essential Blepharospasm Awareness Week".

The enrolled bill and joint resolutions were subsequently signed by the Vice President.

MEASURES PLACED ON THE CALENDAR

The following bill, previously received from the House of Representatives for concurrence, was read the first and second times by unanimous consent, and placed on the calendar:

H.R. 442. An act to implement the recommendations of the Commission on Wartime Relocation and Internment of Civilians.

PETITIONS AND MEMORIALS

The following petitions and memorials were laid before the Senate and were referred or ordered to lie on the table as indicated:

POM-301. A joint resolution adopted by the Legislature of the State of California to the Committee on Finance.

"ASSEMBLY JOINT RESOLUTION No. 20

"Whereas, The ability of investor-owned energy and water utilities to provide extensions of their dedicated utility services to new residential, agricultural, and business customers within California on an efficient basis is of utmost importance to the continuing growth of the state's dynamic economy; and

"Whereas, The policies of the California Public Utilities Commission encourage new customers to contribute the plant or needed funds to the serving utility for major service extensions, and thereby protect existing ratepayers from assuming the costs of those extensions; and

"Whereas, A key element of providing least-cost utility service extensions was a longstanding provision of federal tax law which allowed payments made by new customers to offset the cost of extending the utility's distribution facilities to be treated as a contribution of capital to the utility, and thus not treated as income to the utility upon which income taxes are owed; and

"Whereas, The Federal Tax Reform Act of 1986 (Public Law 99-514) amended Section 118 and repealed Section 362(c) of the Internal Revenue Code, which allowed for those contributions to be treated as capital, and produced the result that contributions made after December 31, 1986, will be treated as income to the receiving utility, and subject to applicable federal income tax rates; and

"Whereas, The economic impact of this change will be immediate and severe, inasmuch as the overall cost of those contributions will increase by as much as 66 percent during 1987, due to their taxable status, and these increased costs must be borne by either the new customer or the ratepayers of the serving utility; and

"Whereas, This impact will be particularly harmful for regulated water utilities, which are unable to obtain cash for both building needed extensions and paying the newly-imposed tax unless the California Public Utility Commission grants significant rate increases for existing customers; and

"Whereas, This action by the federal government does not appear to satisfy either of the goals of fairness or economic growth upon which the Tax Reform Act of 1986 is grounded; now, therefore, be it

"Resolved that the Assembly and Senate of the State of California, jointly, That the Legislature of the State of California respectfully memorializes the Congress of the United States to immediately enact legislation to restore the capital status of contributions in investor-owned energy and water utilities as it existed prior to the federal Tax Reform Act of 1986; and be it further

"Resolved, That the Chief Clerk of the Assembly transmit copies of this resolution to the President and Vice President of the United States, to the Speaker of the House of Representatives, to each Senator and Representative from California in the Congress of the United States, and to the California Public Utilities Commission."

POM-302. A petition from a citizen of Cheektowaga, NY urging the adoption of an

amendment to the Constitution requiring a balanced Federal budget; to the Committee on the Judiciary.

POM-303. A joint resolution adopted by the Legislature of the State of Wisconsin; to the Committee on the Judiciary.

"ENROLLED JOINT RESOLUTION 27

"Whereas, the Congress of the United States has submitted to the several states, by action of the house of representatives on September 24, 1789, and by action of the United States Senate on September 15, 1789, a proposed amendment to the constitution of the United States pertaining to the effective date for congressional pay changes, which amendment reads as follows:

"No law varying the compensation for the services of the Senators and Representatives shall take effect, until an election of Representatives shall have intervened.

"Whereas, while the congress of the United States has the power to impose reasonable time limits for the ratification of proposed amendments to the constitution of the United States, and has done so for many of the amendments submitted to the states in recent decades, the congress did not impose any time limit whatsoever on the ratification of the congressional pay change amendment; and

"Whereas, the congressional pay change amendment was validly ratified by the state of Vermont on November 3, 1791, even though Vermont had not been one of the original 13 states to which the proposed amendment had been submitted, and had not yet achieved statehood when the amendment was submitted; and

"Whereas, by the act of congress dated May 29, 1848 (9 U.S. Stats., Ch. L, pp. 233-235), "for the Admission of the State of Wisconsin into the Union", this state was . . . "admitted into the Union on an equal footing with the original States, in all respects whatever" . . . ; and

"Whereas, almost 26 years following the admission of the state of Wisconsin into the union the state of Ohio, on May 6, 1873, became the 7th state to ratify the congressional pay change amendment. A century later, on March 6, 1978, Wyoming submitted the 8th ratification. Maine ratified on April 27, 1983; Colorado on April 22, 1984. Five states ratified the amendment in 1985: South Dakota in February; New Hampshire on March 7; Arizona on April 3; Tennessee on May 28 and Oklahoma on July 10. Three more ratifications—bringing the total number to 18—were received in February 1986: New Mexico on the 14th; Indiana on the 24th; and Utah on the 25th; and

"Whereas, the people of the sovereign state of Wisconsin, represented in senate and assembly, have studied said proposed addition to the constitution of the United States and it is their consensus that the federal government, three-fourths of the states concurring, be directed to thus alter the constitution of the United States; now, therefore, be it

"Resolved by the assembly, the senate concurring, That the said proposed congressional pay change amendment to the constitution of the United States is hereby ratified by the legislature of the state of Wisconsin; and, be it further

"Resolved, That a duly attested copy of this resolution be immediately transmitted to the president and secretary of the senate of the United States, to the speaker and clerk of the house of representatives of the United States, to the office of the federal register, to the library of congress, to each member of the congressional delegation

from this state, to the national conference of state legislatures, to the council of state governments, and to the presiding officer of each house of each state legislature in the United States, attesting the adoption of this joint resolution by the 1987 legislature of the state of Wisconsin."

REPORTS OF COMMITTEES

The following reports of committees were submitted:

By Mr. THURMOND, from the Committee on the Judiciary:

Special report entitled "Report on the Activities of the Committee on the Judiciary—99th Congress" (Rept. No. 100-163).

By Mr. BIDEN, from the Committee on Foreign Relations, with an amendment:

S. Res. 167: A resolution concerning constitutional principles pertinent to the making of treaties, and further concerning the interpretation of the Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems (with additional views) (Rept. No. 100-164).

By Mr. BYRD, from the Committee on Appropriations, with amendments:

H.R. 2712: A bill making appropriations for the Department of the Interior and related agencies for the fiscal year ending September 30, 1988, and for other purposes (Rept. No. 100-165).

INTRODUCTION OF BILLS AND JOINT RESOLUTIONS

The following bills and joint resolutions were introduced, read the first and second time by unanimous consent, and referred as indicated:

By Mr. MELCHER:

S. 1704. A bill to authorize the establishment of the Lewis and Clark National Historic Site in the State of Montana; to the Committee on Energy and Natural Resources.

By Mr. HATCH (for himself, Mr. PELL, Mr. SIMON, Ms. MIKULSKI, Mr. QUAYLE, Mr. CHAFFEE, Mr. MATSUNAGA, Mr. THURMOND, and Mr. METZENBAUM):

S. 1705. A bill to clarify the distribution of assistance with respect to single parents and single pregnant women under the Carl D. Perkins Vocational Education Act; to the Committee on Labor and Human Resources.

By Mr. THURMOND:

S. 1706. A bill to provide that amounts paid for the acquisition, training, and maintenance of a service animal used for purposes of assisting an individual who is physically disabled shall be treated as medical expenses for purposes of the Internal Revenue Code of 1986; to the Committee on Finance.

By Mr. THURMOND:

S. 1707. A bill for the relief of Frans Nicolaas Mustert; to the Committee on the Judiciary.

By Mr. DOMENICI (for himself and Mr. BINGAMAN):

S. 1708. A bill to provide certain interim measures relating to the Institute of American Indian and Alaska Native Culture and Art Development; to the Select Committee on Indian Affairs.

By Mr. KASTEN:

S. 1709. A bill to amend the Internal Revenue Code of 1986 and the Congressional Budget and Impoundment Control Act of

1974 to improve the tax policy process, provide more accurate information to the Congress and the executive branch, and to provide for improved measurement of tax expenditures; to the Committee on the Budget and the Committee on Government Affairs, jointly, pursuant to the order of August 4, 1977, with instructions that if one committee reports, the other committee has 30 days of continuous session to report or be discharged.

By Mr. PACKWOOD:

S. 1710. A bill to amend subtitle IV of title 49, United States Code, to increase productivity and competitiveness by reducing regulation of motor carriers of property, and for other purposes; to the Committee on Commerce, Science, and Transportation.

By Mr. BENTSEN (for himself, Mr. MOYNIHAN, Mr. CHAFEE, Mr. BRADLEY, Mr. CRANSTON, Mr. DeCONCINI, Mr. DURENBERGER, Mr. GRAHAM, Mr. INOUE, Mr. MATSUNAGA, Mr. MITCHELL, Mr. REID, Mr. RIEGLE, and Mr. STENNIS):

S. 1711. A bill to amend the Social Security Act to establish a National Commission on Children; to the Committee on Labor and Human Resources.

By Mr. WALLOP:

S.J. RES. 190. Joint resolution to authorize and request the President to issue a proclamation designating June 6-12, 1988 as "National Fishing Week"; to the Committee on the Judiciary.

STATEMENTS ON INTRODUCED BILLS AND JOINT RESOLUTIONS

By Mr. MELCHER:

S. 1704. A bill to authorize the establishment of the Lewis and Clark National Historic Site in the State of Montana; to the Committee on Energy and Natural Resources.

LEWIS AND CLARK NATIONAL HISTORIC SITE

Mr. MELCHER. Mr. President, today I am introducing legislation to authorize the establishment of the Lewis and Clark National Historic Site near Great Falls, MT, where Lewis and Clark portaged 18 miles around the Great Falls of the Missouri River in the summer of 1805.

This legislation is identical to House resolution 1982 introduced in the House of Representatives by Montana Congressman RON MARLENEE. This legislation authorizes the Secretary of the Interior to accept a donation of 50 acres from the State of Montana to establish this site and to construct a visitor center. Passage would also authorize to be appropriated not more than \$5 million for the construction of an appropriate visitor center and associated structures and improvements.

The expedition of Lewis and Clark commencing in 1804 was directed by President Jefferson to explore a large part of the Louisiana Purchase and to explore routes to the Pacific coast. In the course of their journey, they passed through the present States of Missouri, Kansas, Iowa, Nebraska, South Dakota, North Dakota, Montana, Idaho, Washington, and Oregon. Altogether, between May 1804 and the return to St. Louis in September 1806,

they were to travel in boats, on horses, and on foot some 8,000 miles.

On June, 13, 1805, on their way upstream as they probed for the Continental Divide, Captain Lewis, while exploring what we called the southern fork of the Missouri River in central Montana, made a startling discovery. Let me share that event with you as described in their journal and recorded in the history of the expedition under the command of Captains Lewis and Clark:

Thursday 13:

... In this direction Captain Lewis had gone about two miles when his ears were saluted with the agreeable sound of a fall of water, and as he advanced a spray which seemed driven by the high southwest wind arose above the plain like a column of smoke and vanished in an instant. Towards this point he directed his steps and the noise increasing as he approached soon became too tremendous to be mistaken for anything but the Great Falls of the Missouri. Having travelled seven miles after first hearing the sound he reached the falls about twelve o'clock; the hills as he approached were difficult of access and two hundred feet high: down these he hurried with impatience and seating himself on some rocks under the centre of the falls, enjoyed the sublime spectacle of this stupendous object which since the creation had been lavishing its magnificence upon the desert unknown to civilization.

Today, the Great Falls of the Missouri is still a sight to behold and, as Captain Lewis observed and contemplated, the Missouri River has a great spectacle that is not expected in an arid area. Passage of this legislation will enable Montanans and our visitors to share this special place and the history of Lewis and Clark as they described their journey, including their portage around the Great Falls of the Missouri.

Mr. President, I ask that my colleagues join with me and support this legislation to authorize the establishment of the Lewis and Clark national historic site.

Mr. President, I ask unanimous consent that the bill be printed in the RECORD.

There being no objection, the bill was ordered to be printed in the RECORD, as follows:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. ESTABLISHMENT.

(a) HISTORIC SITE.—In order to preserve and interpret, for the benefit and inspiration of present and future generations, the historic site where Lewis and Clark portaged around the Great Falls of the Missouri River, the Secretary of the Interior (hereinafter in this Act referred to as the "Secretary") is authorized to establish the Lewis and Clark National Historic Site (hereinafter in this Act referred to as the "historic site"). The historic site shall be established by the Secretary upon the transfer by the State of Montana to the United States of the lands described in subsection (b) and such additional easements and other rights

as the Secretary deems necessary to ensure adequate public access to the historic site.

(b) MAP.—The historic site shall consist of the lands granted by the State of Montana, not to exceed 50 acres, and generally depicted on the map entitled "Boundary Map, Proposed Lewis and Clark National Historic Site," numbered _____ and dated _____, which shall be on file and available for public inspection in the offices of the National Park Service, Department of the Interior.

SEC. 2. ADMINISTRATION.

(a) IN GENERAL.—The Secretary shall administer the historic site in accordance with this Act and the provisions of law generally applicable to units of the national park system, including the Act entitled "An Act to establish a National Park Service, and for other purposes", approved August 25, 1916 (39 Stat. 535; 16 U.S.C. 1-4) and the Act of August 21, 1935 (49 Stat. 666; 16 U.S.C. 461-467).

(b) DONATIONS.—Notwithstanding any other provision of law, the Secretary may accept donations of funds, property, or services from individuals, foundations, corporations, or public entities for the purpose of providing services and facilities which he deems consistent with the purposes of this Act.

(c) COOPERATIVE AGREEMENTS.—In administering the historic site, the Secretary is authorized to enter into cooperative agreements with the State of Montana, or any political subdivision thereof, for the rendering, on a reimbursable basis, of rescue, firefighting, and law enforcement services and cooperative assistance by nearly law enforcement and firefighting departments or agencies. The Secretary is also authorized to enter into cooperative management agreements for specified areas near or adjacent to the historic site within the Giant Springs State Park as depicted on the boundary map referred to in section 1(b). The Secretary is encouraged to develop, in conjunction with the State of Montana, a cooperative management plan for the entire Giant Springs Park which will enhance the general public's opportunity to use and enjoy the historic site as well as adjoining State lands.

SEC. 3. REVERSION OF LANDS.

Any lands granted to the Secretary by the State of Montana for use in connection with the historic site shall revert to the State of Montana if, at any time, the Secretary uses such lands for any purpose other than any purpose authorized under this Act.

SEC. 4. MISSOURI RIVER WILD AND SCENIC RIVER.

Subsection (g) of section 203 of the Act approved October 12, 1976 (90 Stat. 2327, 2329), is amended as follows:

(1) Strike out "except" in paragraph (1)(G) and insert in lieu thereof "including".

(2) Strike out "National Park Service" in paragraph (2) and insert in lieu thereof "Bureau of Land Management".

SEC. 5. AUTHORIZATION OF APPROPRIATIONS.

(a) IN GENERAL.—There is hereby authorized to be appropriated such sums as may be necessary to carry out the purposes of this Act, including such sums as may be necessary for the planning and designing of, and site preparation for, a visitor center and associated structures and improvements at the historic site.

(b) CONSTRUCTION OF VISITOR CENTER.—There is hereby authorized to be appropriated not more than \$5,000,000 for the construction of an appropriate visitor center and associated structures and improvements.

By Mr. HATCH (for himself, Mr. PELL, Mr. SIMON, Ms. MIKULSKI, Mr. QUAYLE, Mr. CHAFEE, Mr. MATSUNAGA, Mr. THURMOND, and Mr. METZENBAUM):

S. 1705. A bill to clarify the distribution of assistance with respect to single parents and single pregnant women under the Carl D. Perkins Vocational Education Act.

AMENDING THE CARL D. PERKINS VOCATIONAL EDUCATIONAL ACT

Mr. HATCH. Mr. President, I am pleased to introduce a small, but important, piece of legislation. This provision would clarify the ambiguity which has stymied full implementation of the set-aside of funds for displaced homemakers and single parents under the Carl D. Perkins Vocational Educational Act. Enactment of this amendment will guarantee that one group—single pregnant women—are eligible to receive vocational education services funded by this set-aside.

I was proud to be the original sponsor of the set-aside for displaced homemakers and single parents during the last reauthorization of the Carl Perkins Act. I had always intended that these funds would be available to serve single pregnant teenagers and regret that they have not been able to be served because there was some doubt that the term "single parent" applied to them.

In my own State of Utah, we have several programs of vocational education, including a program of "alternative schools," for these young women. It is very important that they receive vocational training and the related skills if they are to be able to be self-sufficient, working mothers able to provide for themselves and their child. I know that many States would also like to have these funds available for such programs.

Mr. President, again, I am pleased to introduce this legislation to clarify that single pregnant women may receive services under section 202 of the Carl D. Perkins Vocational Education Act. Senators PELL, SIMON, MIKULSKI, QUAYLE, CHAFEE, MATSUNAGA, THURMOND, and METZENBAUM join me in introducing this legislation.

By Mr. THURMOND:

S. 1706. A bill to provide that amounts paid for the acquisition, training, and maintenance of a service animal used for purposes of assisting an individual who is physically disabled shall be treated as medical expenses for purposes of the Internal Revenue Code of 1986; referred to the Committee on Finance.

LEGISLATION TO CLARIFY THE TAX TREATMENT OF SERVICE ANIMAL EXPENSES

Mr. THURMOND. Mr. President, I rise today to introduce legislation to clarify the tax treatment of service animals for the disabled.

Section 213 of the Internal Revenue Code allows for the deduction from income of certain medical expenses. Interpreting this section, the Internal Revenue Service [IRS] has issued two revenue rulings which allow the deduction from income of amounts paid for the acquisition, training, and maintenance of a dog for the purpose of assisting the deaf or blind. See Revenue Rulings 55-261 and 68-295.

Mr. President, within the past few years, different animals have been trained to assist individuals with a wide range of physical disabilities. This legislation would ensure that these service animals are treated under the Tax Code the same as guide dogs used by the blind and deaf.

The important use of these service animals was brought to my attention by constituents of mine, John and Joanne Jones of Taylors, SC. Mr. and Mrs. Jones will soon be acquiring a service dog for their disabled 16-year-old daughter who suffers from lower limb paralysis. Mr. Jones has informed me that a service dog will substantially add to their daughter's ability to live an independent life. For example, this dog will assist in carrying her books to school, climbing stairs, and opening doors. As well, the dog will be able to retrieve objects and switch lights on and off.

Mr. President, the Jones have provided me with three articles calling attention to the marvelous service these animals are providing to the disabled throughout the country. I ask unanimous consent that they be included in the RECORD, as well as the bill I have introduced.

Mr. President, I have been informed that the IRS has not clarified its position on the tax treatment of expenses associated with service animals for the disabled. This legislation would ensure they are not treated any different than guide dogs for the deaf and blind.

Mr. President, I urge my colleagues to support this legislation and its expedited passage.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

S. 1706

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. EXPENDITURES FOR SERVICE ANIMALS USED TO ASSIST PHYSICALLY DISABLED TREATED AS MEDICAL EXPENSES.

(a) IN GENERAL.—For purposes of section 213 of the Internal Revenue Code of 1986, any expenditures for the acquisition, training and maintenance of a service animal used for purposes of assisting an individual who has a physical disability other than blindness or deafness shall be treated in the same manner as such expenditures in connection with a dog used for purposes of assisting an individual who is blind or deaf.

(b) EFFECTIVE DATE.—The provisions of this section shall apply to taxable years beginning after December 31, 1986.

A BOY AND HIS DOG

Sex and age differences notwithstanding, David Pearson, 14, and Cameo, three, do almost everything together, from camping with the Boy Scouts to showering. The Labrador retriever pulls her master's wheelchair, carries his ninth-grade homework and, of course, retrieves—one lunch period David had trouble throwing away a milk carton because Cameo kept taking it out of the trash. But it is not the 89 commands the dog obeys that matter most to David. "It's companionship," he says. "Cammie's so up-wired, lively, I'll never be lonely."

Dan Pearson, a dentist, and Alysa, a special education teacher, had one daughter when they adopted two-month-old David. At six, the boy was diagnosed as having a gradual, incapacitating form of muscular dystrophy, Duchenne's. While David was still mobile the family hiked, skied and swam; by seventh grade he couldn't walk. The only wheelchair student in his Modesto, Calif., school, he was increasingly isolated despite such activities as playing the alto saxophone in the school band.

Then, last year, David applied to Canine Companions for Independence, a group that provides dogs to the disabled. At a two-week training camp he met Cameo. She tipped him out of his wheelchair. "Hey, no big deal, I've eaten concrete before," David told the trainer. Secretly, the reserved boy wished for a quieter animal, but after sharing 10-hour training sessions and tears—David shed them, Cameo licked them off—dog and master formed a close bond. His sister, Lisa, 19, says of the year since, "David is so much more alive now."

THE WOMAN WHO BROUGHT THEM TOGETHER

Bonnie Bergin, a special ed teacher, was in a Nepalese marketplace a decade ago when she saw a donkey carrying wares for a crippled man. Back in Santa Rosa, Calif, she wondered if dogs, too could be helpers. "I got a crash course in the techniques of dog breeding and training with a job at a kennel for a year," she says. In 1975 Bergin began Canine Companions for Independence by convincing Kerry Knaus, a quadriplegic woman, to take on a dog. Since that time, 231 dogs have been placed. Knaus, today a regional director for CCI, estimates that her Abdul has saved \$20,000 annually in human nursing care.

Promising puppies from pedigreed stock are raised in foster homes from the age of eight weeks to 15 months. Six months of advanced training at one of CCI's two centers in California prepares some to be service dogs, some to be ears for the deaf and some to work with the elderly or with people who have emotional problems. Once matched with a master, dogs work for about 10 years, after which they may be kept as pets. The disabled pay \$125 in application and registration fees; the rest of CCI's \$5,000 cost per dog comes from contributions. The nonprofit organization predicts a million-dollar budget next year and plans to open new centers—in Dallas, New York, Chicago and Atlanta—to reach more Davids.

DOGGONE SMART—GUNSHOT VICTIM, DOG PREMIERE GRADUATES OF TRAINING PROGRAM

(By Kay Gordon)

Several years ago, a gunshot wound left Eddie Jones paralyzed from the waist down and confined to a wheelchair.

Today, he remains in a wheelchair, but with a little help from a friend, Eddie has the use of another set of legs.

Yesterday, Eddie and his golden retriever, Jackson, graduated as the first team to complete a service dog training program in South Carolina through Southeastern Ears for the Deaf/Hearing Impaired.

The event marked the expansion of the 3-year-old Greenville-based program, which originally was started to train dogs only for the deaf and hearing impaired.

Now, in addition to the hearing dogs, the program expects to train many more service dogs throughout the Southeast. Another team is in training right now and a third will begin soon.

Initially, Jackson's training was done in Greenville by Connie Drobac, the SEED/HI trainer. She made bi-monthly trips to Columbia to show Eddie what Jackson was learning and to give them a chance to work together. In March, Jackson moved in with Eddie. The training period took about eight months.

"I was trained to train Jackson," Eddie said, patting his dog.

Jackson can open and close doors, flip light switches, fetch medicine, open the refrigerator and pull Eddie in his wheelchair.

"He's the amazing Jackson," Eddie said with a wide smile. "I just tell Jackson, 'Forward,' and he'll do" whatever task. "Smart? He's smart. As a matter of fact, I think he's smarter than I am. If I graduate today, it'll be from the lessons he taught me."

Yesterday, the pair strutted its stuff at the graduation ceremonies and press conference held by SEED/HI in conjunction with South Carolina Protection and Advocacy System for the Handicapped Inc. at the SCPASH offices.

"Lights," Eddie commanded.

Jackson padded to the wall switch and nosed the switch off. He wagged his tail in appreciation to a round of applause from on-lookers.

Eddie pointed to the door, and, opening his mouth to grasp the string on the knob, Jackson obligingly pulled it shut.

"Good boy" Eddie praised, as the dog put his head in his master's lap.

Eddie grinned again when he was presented Jackson's identification card, with a color photo of the dog, and a black leash and collar to match his black harness. Inscribed on the collar are: "Jackson-Eddie Jones."

The graduation ceremonies were doubly sweet for the team because just days before the legislative session closed earlier this month, South Carolina Public Act 147 was ratified and signed by Gov. Carroll Campbell. Now, South Carolina law states that "Every handicapped person has the right to be accompanied by an assistance dog."

"I don't have to worry now," Eddie said. "It means me and Jackson can go anywhere I want to go. We never go anywhere without this card. He's always there," Eddie said of Jackson. "I don't have to worry if a friend shows up. He's always there."

SEED/HI was founded in June 1984 as a program of Greenville's Speech, Hearing & Learning Center Inc. to train dogs to respond to sounds their owners couldn't hear. Although the center is a United Way agency, SEED/HI receives no United Way funds.

The program is supported by interested civic groups and private individuals. The center raises \$2,000 to cover the cost of each dog that goes through the program.

A DOG FOR KRIS

(By Bruce B. Henderson)

Kris was born with a spinal defect that left him paralyzed from the waist down.

Within days of his birth, his real parents signed him into a California mental hospital and never came back.

Spinal fluid collected in Kris' skull, causing pressure on the brain, but doctors decided against surgery. Left to die, Kris did not. Six months later, a cranial shunt was implanted to drain the fluid. Medically, that was all that could be done.

Kris was three years old when Kathleen and Allyn Ledwick of Santa Rosa, Calif., first saw him. The couple already had five children. An aircraft mechanic, Al worked the night shift in order to help Kathy during the day. Still, the Ledwicks wanted to adopt a handicapped child who might not otherwise find a home. Officials told them about Kris.

Misdiagnosed as profoundly retarded, Kris was confined to the acute ward. He had never been outside to touch the grass or see the sky. He did not know what the words Mommy and Daddy meant.

The Ledwicks saw something special in this boy with hair and eyes as dark as the night, and took him home. They had braces made so Kris could stand. But when he suffered hip problems, he had to return to a wheelchair.

Kris' disabilities were psychological as well. He chattered a lot, but said little. Things like "Hello, there" and "How are you?" Just the way the nurses had talked to him. He hid his feelings. Dependent on others for everything, he was withdrawn one moment and filled with rage the next.

When he started school, teachers found him uncertain, noncommunicative, fragile. His schoolmates shied away from him.

Kathy and Al wondered if they had taken on more than they could handle: Kris was so unassertive as he sat in his wheelchair behind an invisible mask. When he spoke, it was in a timid voice that suggested he would accept whatever he got and didn't think he deserved any better. Everyone in the family sought ways to reach him.

Puppy Power. In 1982 the Ledwicks' 12-year-old daughter, Kellie, read about Canine Companions for Independence (CCI), a national, nonprofit organization that trains dogs to help sighted, disabled people. Thinking of Kris, she rode her bike to the CCI office a mile away and asked for more information.

Kellie eventually became a volunteer "puppy raiser," bringing home a ten-week-old golden retriever to train. Her job was to socialize the dog and teach it basic commands. Later, the dog would be assigned to assist a disabled person.

Soon, Kris hinted he wanted his own dog. But everyone wondered: how could he handle a dog when he couldn't take care of himself? Kerry Knaus, a regional director for CCI, met Kris and came up with an answer: he would be given a puppy to raise. If he did okay, Kris would receive his own dog.

Collie pup Jessie Jane was 16 weeks old when she was given to Kris to raise. The challenges began immediately. Early one morning Jessie needed to go outside. Kris steered his wheelchair down the ramp to the back yard. When he reached the lawn, the chair tipped over and he fell out. Watching from the window, Kathy ran for the back door. Gripping the knob tightly, she willed herself to stay inside: Kris must handle this himself.

Kris struggled to right his chair. "I wish you were gone!" he yelled at the dog. "Go away!" After 15 minutes, Kris managed to climb back into his wheelchair. The puppy

licked him on the chin. Kris smiled, then petted her. Kris talked to and touched the puppy as they roamed through the yard.

Kathy was filled with new hope. Kris didn't like being in the back yard alone. Yet, he had just spent two enjoyable hours outside without his brothers or sisters around. Something special was happening.

"I Can't Hear You, Kris." In the weeks that followed, Kris learned to feed his dog, clean up after her and give her daily vitamins. When it was time for Jessie Jane to be returned to CCI for her final training, everyone agreed that Kris deserved his own dog.

Kris had one remaining hurdle—an intensive two-week training session. There were 14 disabled people in the class. All but three were in wheelchairs. The first day, they were asked to introduce themselves. When it was his turn, Kris said softly, "My name's Kristofer Ledwick. I'm eight years old, and my legs don't work."

The class began working with the dogs under the watchful eye of CCI's founder, Bonnie Bergin. In the beginning, commands were kept simple: sit, stay, heel. The dogs had already learned a total of 89 commands, but the people had to learn how to give them so that the dogs would obey.

Kris spoke in a soft, whiny voice, talking to the dogs rather than commanding them. They usually ignored him.

Bonnie knew what was happening. "Sit up," she told Kris. "Take a deep breath. You are the leader. Do you believe that?"

He nodded his head shyly.

"I can't hear you, Kris."

He squirmed.

"Kris, a dog will believe you're the leader only if you believe it. That must come from inside you."

Bonnie knew that having such a young child in class might not work. Here was a boy who had never been in command of his life. Yet he was now being asked to take charge not only of himself but of an intelligent animal.

When he went home that night, Kris crawled out of his chair. Crying, he picked up his unfeeling legs and pounded them on the floor. "I hate my legs! I wish I was dead!"

Kathy calmed him down and found out what was wrong. Kris had never been around adults in wheelchairs. That day, he had been forced to confront what he was going to look like when he grew up. And he didn't like what he saw.

The next morning, he told his mother he didn't want to go back to class. "I don't want a dog," he whined. "I want to walk."

"Kris, there's nothing you can do about that," she said. "But there's something you can do about the class. Come on, don't be a quitter."

Bonding With Ivy. By the third day, Kris was joking with his classmates and challenging them to race to the deli down the street. His work reflected his growing confidence.

Bonnie Bergin soon decided that the dog that best matched Kris was Ivy. A golden retriever, nearly two years old, she weighed 48 pounds. Too small to pull an adult in a wheelchair, Ivy might be just right for Kris. Alert, intelligent, sensitive, she had been the best in her litter at learning commands.

Kris and Ivy seemed a perfect match. But on their first full day together they didn't do well. The following day, Kris began projecting commands in a stronger voice, and Ivy began making eye contact with him. Bonnie recognized this as the first stages of "bonding"—a vital emotional connection a

dog has to make with its master to feel secure and trusting.

Each day, Kris became more sure of himself as Ivy responded to his orders. Thereafter, this new team of the smallest student and littlest dog had no trouble keeping up with the rest of the class. On the written exams, Kris did better than some of the adults.

At the graduation ceremonies, on June 25, 1983, Ivy was presented to Kris by her puppy raiser, 12-year-old Cherie Montague. Grinning, Kris patted Ivy on the head. He didn't look so alone anymore.

In the audience, Kathy Ledwick whispered to her daughter, "You got your wish, Kellie."

"Yeah," Kellie said, wiping away a tear. "Now we've got to fine-tune it."

A Working Dog. Before school started again, Ivy had to learn commands tailored to Kris's needs. In August they practiced getting on and off the bus. Ivy was introduced to the school hallways, playground and Kris's third-grade classroom. His textbooks and note pads fit nicely into Ivy's specially designed backpack. She learned to lie down under a school desk, and to drink from a water faucet. If Kris dropped a pen, she would fetch it and put it into his hand.

On the first day of school, CCI's Kerry Knaus told Kris's teacher that Kris was completely responsible for his dog. "If Ivy makes a mistake, give the detention to Kris," she said firmly. "It will be his fault, not the dog's." Kerry then told Kris's classmates, "Ivy is a work dog, not a pet. Don't touch her without Kris's permission. And don't feed her. She doesn't eat on the job."

When Kathy Ledwick visited her son's class during the second week, what she saw at recess convinced her that everything was fine. In the old days, recess would have been ending about the time Kris made it out to the playground. But now, with Ivy pulling as Kris gripped the handle on her pack, he was one of the first there. The kids were talking to Kris, asking to pet Ivy, and finding ways for Kris and his dog to take part in the activities. Laughing with the rest of the kids, he had never looked happier.

One afternoon, Ivy barked in the library. Kris and Ivy had to serve time at the "detention bench." A quick learner, Ivy never made another peep. In fact, later in the term, she won a special school award for good behavior.

The following months were good ones for Kris. Thanks to his Canine Companion, he gained more independence each day.

Then tragedy struck. In April 1984 he was rushed to the hospital with a brain infection. Doctors had to operate. In the days following surgery, Kris lay near death.

At the Ledwick home, Ivy slept fitfully on her master's bed, carried his belongings from room to room and more than once tried to slip into her harness so she could return to "work."

When Kris was at his lowest, suffering intense pain and with flagging spirit, Kerry Knaus visited him. "Kris, you've got to get better," she said. "Ivy needs you." Within days, Kris started to improve. Eight weeks later, he was back for the last day of school.

As he prepares to enter sixth grade this September, Kris is very much a normal boy. There's nothing shy about him these days. The boy slumped in his chair and looking out on the world with frightened eyes has become a dynamo on wheels. Watching a videotape of a TV story about him done several years ago, Kris hears an announcer call him a "special youngster."

"That's when I was still a kid," Kris says breezily. "Now I'm a fighter."

By the end of 1985, nearly 200 dogs had been placed with disabled people across the United States and Europe by Canine Companions for Independence. For information on obtaining a dog or supporting this group, write: CCI, Inc., P.O. Box 446, Santa Rosa, Calif. 95402.

By Mr. DOMENICI (for himself and Mr. BINGAMAN):

S. 1708. A bill to provide certain interim measures relating to the Institute of American Indian and Alaska Native Culture and Art Development; referred to the Committee on Indian Affairs.

INDIAN ART AND CULTURE INSTITUTE TRANSITION ACT

● Mr. DOMENICI. Mr. President, I send to the desk a bill to make some urgent technical corrections to the Indian Culture and Art Development Act, which we passed last year.

I am pleased and honored to be joined on this bill by my colleague and good friend from New Mexico [Mr. BINGAMAN]. He shares my enthusiasm for that important legislation.

During the 99th Congress, Mr. President, we enacted several significant improvements in the legal and administrative framework for the Institute of American Indian Art, which is located in Santa Fe, NM.

These improvements were designed to encourage this national school to attract more private donations and foundation support. We accomplished this by freeing the school from the control of the Bureau of Indian Affairs, while maintaining its basic Federal support.

We are now in the transition phase, from the old Institute to the new. Not unexpectedly, a few technical problems have arisen.

For example, Congress originally ordered the Bureau of Indian Affairs to complete the transition by October 1, 1986, a quite unrealistic date since we did not pass the bill until September 1986.

This error was corrected with language in the continuing resolution that extended the date 1 year. But Mr. President, that date will arrive next week, and the transition needs a bit more time. While progress has been made, and the President will soon appoint a new Board of Trustees, more time is needed to ensure the continuation of the Institute.

The questions over this legal authority could close the Institute before the new Board of Trustees has been appointed and approved by the Senate.

So our bill provides the Federal authority to continue to operate the Institute until June 1, 1988, or an earlier date, if both the new Board of Trustees and the Secretary of the Interior agree.

I have worked closely with the Senate Select Committee on Indian Affairs, the House Education and Labor Committee, and the administration to reach agreement on the purpose and details of this proposal.

To assist the Secretary, we have also included a new authority to enter into a 6-month contract with the University of New Mexico. This contract will be used to develop what we expect will be an administrative system appropriate for a national art institute. Included will be the development of plans for personnel, admission standards, fiscal and accounting management, procurement, and property management.

The bill also creates a seven-member interim advisory board to support the university's effort. One member each will be designated by the National Congress of American Indians and the American Indian Higher Education Consortium. The other five members will be appointed by the Secretary of the Interior, who will be required to select persons with experience in Indian arts and culture and in postsecondary education. A majority of the Secretary's appointees must be Indians.

The bill also permits the new Board of Trustees, once organized, to extend the University of New Mexico contract for 60 days. After that, any further contractual assistance must be subject to the normal procurement practices established by the Board.

With these changes, Mr. President, I believe that the transition from the current Institute for American Indian Art to the new Institute of American Indian and Alaska Native Culture and Art Development will be enhanced. Many details remain to be settled in the transition. But the joint effort of the University of New Mexico and the Indian advisory council to the university offer a solid and effective combination.

I am confident that this strategy will enhance the new Institute from its very first official day. I urge my colleagues to support this bill. Public confidence in the Institute, together with the necessary ability to attract private donations, will be strengthened greatly with this legislation.

The winner, Mr. President, will be the Institute for American Indian and Alaska Native Culture and Art Development, and the American people.●

● Mr. BINGAMAN. Mr. President, I am pleased to join with my colleague, the senior Senator from New Mexico [Mr. DOMENICI] to introduce this legislation, a bill providing urgently needed corrections to the Indian Culture and Art Development Act, Public Law 99-498.

Three weeks ago, on September 2, 1987, I chaired a field hearing of the Joint Economic Committee of Congress in Santa Fe, NM. During that

hearing, the scope of which was Indian education and the proposed transfer of Bureau of Indian Affairs schools to tribes and local governments, I was informed of a pressing problem concerning the administration of the Institute of American Indian Art. As Senator DOMENICI outlined, the problem arose in the 99th Congress when we enacted legislation to transfer administration of the Institute from the Bureau to an independent Board of Trustees. An erroneously drafted portion of that legislation apparently led to a provision mandating the termination of the Bureau's legal authority to operate the Institute on October 1, 1987. The termination is to occur without regard to whether the Board of Trustees has been appointed. Because it is virtually impossible for the Board of Trustees to be appointed within the next 2 weeks, the Institute is faced with closure when the Bureau's administrative authority lapses on October 1, 1987.

I am pleased that we are able to expeditiously respond to this problem with the corrective legislation introduced today. Working with the Senate Select Committee on Indian Affairs, the House Education and Labor Committee and the administration, we have developed a framework that provides ample time for the smooth transition from Bureau control to administrative independence.

It is our belief that the Institute's new administration, which the University of New Mexico and an advisory counsel comprised of individuals possessing knowledge and experience of Indian arts and culture will temporarily oversee, will do much to preserve and enhance the continued viability of this important institution. Since its establishment more than two decades ago, the Institute has sought to preserve and foster traditional Native American art and culture while, at the same time, encouraging and facilitating the evolution of contemporary and personal artistic expression. To allow this work to cease would be a shame, not only for the students whose artistic and educational opportunities would be stemmed, but for this Nation as a whole, which has been deeply enriched by the Institute's existence. I urge my colleagues to join us in support of this bill.●

By Mr. KASTEN:

S. 1709. A bill to amend the Internal Revenue Code of 1986 and the Congressional Budget and Impoundment Control Act of 1974 to improve the tax policy process, provide more accurate information to the Congress and the executive branch, and to provide for improved measurement of tax expenditures; pursuant to the order of August 4, 1977, referred jointly to the Committee on the Budget and the Committee on Governmental Affairs.

TAX POLICY INFORMATION ACT

Mr. KASTEN. Mr. President, I rise today to introduce the Tax Policy Information Act of 1987. The primary purpose of the act is to improve the congressional revenue estimating process.

Let me point out at the outset that I believe the staff of the Joint Committee on Taxation is a group of highly competent and professional tax technicians. Revenue estimating is not an easy job. Norman Ture, president of the Institute for Research on the Economics of Taxation [IRET] and former Treasury Under Secretary for Tax and Economic Affairs called the JCT staff "The heroes of tax reform process. As tax technicians, they're remarkable." I agree. However, both Dr. Ture and I disagree with the methodology by which the JCT uses in arriving at its revenue estimates.

Strengthening and improving the revenue estimating process is particularly needed now that the revenue considerations are of overriding importance during the tax policy decision-making process and secret revenue estimates drive policy decisions critically affecting millions of individuals and businesses. The tax policy process in last year's Tax Reform Act was driven, to an unconscionable extent, by revenue estimates.

The Tax Reform Act of 1986 is, on balance, good for American people and the Nation's economy. However, we failed to go far enough in some areas and actually took a step back in others, in large part, because of inaccurate revenue estimates.

I believe the major problem with the current revenue estimating process is the reliance on "static" rather than "dynamic" revenue estimates. Revenue estimates should take into account the fact that taxpayers change their behavior in response to changes in the tax law. Granted, this is a difficult and inexact process. But it is better to be inexactly correct than precisely incorrect.

The revenue estimates of the taxation of capital gains is the most obvious example of the inaccuracy of "static" analysis. Despite the wealth of empirical evidence that we have on the positive effect of capital gains tax cuts on the realizations and Federal tax receipts, the JCT estimated that raising the capital gains tax rate from 20 to 28 percent will raise about \$20 billion over 5 years.

The present tax expenditure budget is based on a definition of tax expenditure that rests on a number of highly debatable normative assumptions and incorrect economic assumptions. In the interest of public disclosure, the legislation would require four alternative tax expenditure budgets that accurately reflect differences of opinion within the economics and political communities.

First, revenue estimators would be required to conduct estimates on both a dynamic and static basis. Presently, estimates are conducted on the manifestly incorrect static assumption that people do not alter their behavior in response to changes in the tax law. This leads to highly inaccurate estimates that may even predict a revenue gain or loss when the exact opposite is true. Dynamic estimates would take reality into account by analyzing changes in taxpayer behavior that are likely to take place. While this process is inexact, it is better to be imprecisely correct than precisely incorrect. For example, if a \$10,000 tax were imposed on red cars, the static revenue estimating method would multiply \$10,000 times the number of red cars produced annually and predict large revenue gains. A dynamic revenue estimate would predict that most people would buy cars of another color and predict very low revenue gains.

Second, revenue estimates would also have to be conducted using the two major competing income concepts. The one generally called the Haig-Simons definition is presently used, while the one associated with Irving Fisher and Norman Ture is not. The former requires complex determinations of asset decay rates and estimation of phantom imputed income. The second, more simple definition is closer to the concept used by ordinary people and is based on the idea that only when a taxpayer actually receives income does he have income and when he actually pays expenses, he has deductible expenses.

In addition, the bill requires revenue estimators to be more responsive to congressional requests for revenue estimates. Under the bill, if two Members of the House or Senate—one of whom is a member of a tax-writing committee—request a revenue estimate, then the JCT would be required to provide an estimate within 60 days.

Mr. President, inaccurate revenue estimates can lead to unwise changes in the Tax Code that adversely affect millions of American taxpayers, investors, and businesses. In addition, the current revenue estimating process could prevent future changes in the Tax Code to increase investment, savings, economic growth, and job creation.

By Mr. PACKWOOD:

S. 1710. A bill to amend subtitle IV of title 49, United States Code, to increase the productivity and competitiveness by reducing regulation of motor carriers of property, and for other purposes; to the Committee on Commerce, Science, and Transportation.

TRUCKING PRODUCTIVITY IMPROVEMENT ACT

● Mr. PACKWOOD. Mr. President, today I am introducing by request the

Trucking Productivity Improvement Act of 1987. The administration is to be commended for submitting this excellent legislation to Congress.

The trucking industry is a crucial component of our Nation's transportation system, hauling more than 70 percent of the dollar value of all freight carried in the United States and generating annual revenues in excess of \$200 billion.

Prior to 1980, the operations of interstate trucking companies were hindered by a burdensome Federal economic regulatory system administered by the Interstate Commerce Commission [ICC]. These regulations, first imposed in 1935, restricted carriers in terms of the routes over which they could travel and the commodities they could haul. These restrictions led to costly, inefficient operations.

It was also extremely difficult for new carriers to enter the industry. Not only was the ICC's consideration of applications for new operating authority a lengthy process, but new carriers were frequently faced with protests to their applications from carriers who merely were afraid of competition. Typically, these protests were successful. The resulting lack of competition, in the form of new entry, combined with the carriers' ability to meet and set their rates collectively resulted in shippers paying higher rates than necessary and having fewer service options available than the free market would have provided.

This situation changed dramatically with enactment of the Motor Carrier Act [MCA] of 1980. This legislation substantially eased entry regulations and provided carriers greater operating and pricing freedom. The MCA also took the important procompetitive step of eliminating antitrust immunity for collective ratemaking with respect to single-line rates.

Mr. President, deregulation has worked well. According to the ICC, more than 31,000 new carriers have received operating authority since enactment of the MCA. In addition, trucking operations have become more efficient and more and more carriers are taking advantage of the pricing flexibility provided by the MCA. The combination of more carriers providing service with a greater amount of independent pricing provides shippers with a greater variety of price and service options.

In fact, shippers are very satisfied with trucking service under partial deregulation. Since enactment of the MCA, the number of service complaints received by the ICC has decreased. This does not just hold true for large metropolitan areas—small communities also have benefited from deregulation. The research conducted by and for the ICC and the Department of Transportation [DOT] has consistently shown that overall motor

carrier service to small communities is at least as good as it was prior to enactment of the MCA, and often better.

While deregulation has brought substantial benefits to users of trucking services, there is no doubt that the trucking industry and trucking company employees have experienced difficulties since 1980. There have been several bankruptcies of large and small trucking companies. Because of this, as well as the fact that most of the new motor carriers in operation since 1980 are nonunion, many Teamsters have lost their jobs in the years following deregulation. It is important to remember, however, that all of the trucking industry's problems cannot be blamed on the MCA. The economic recession of the early 1980's brought difficulties for American business as a whole. As business activity in our Nation slowed, the amount of freight available for transport by trucking companies decreased. Fortunately, we are seeing improvements in our economic situation.

Mr. President, it is important to remember that while the MCA greatly reduced economic regulation over interstate trucking companies, it did not provide complete deregulation. There is no need for continued Federal economic regulation of trucking companies. In fact, former ICC Chairman Reese Taylor went so far as to characterize the Commission's trucking-related functions as "a monumental paper-shuffling operation." I see no reason to continue such needless activity.

Most others agree with this view. Total economic deregulation of the trucking industry is supported by a large number of business interests. Deregulation's supporters include the following:

AMERICANS FOR SAFE AND COMPETITIVE TRUCKING

The following companies, associations, and organizations support the total economic deregulation of the trucking industry.

A & S Trucking, Inc.
Air Products & Chemicals Inc.
American Conservative Union.
American Greetings.
American Petroleum Institute.
American Retail Federation.
Anderson Clayton Foods Inc.
Associated Distributors, Inc.
Atlas Powder Company.
Belden Corp.
Bristol Myers.
H.E. Butt Grocery Co.
Cardinal Industries.
William Carter Co.
Central GMC, Inc.—Leasing Div.
Central Soya Company, Inc.
Champion Home Builders Company.
Clorox Co.
Common Health Warehouse Co-op Assoc.
Crown Zellerbach Corporation.
Dairylea Cooperative, Inc.
Edward Don & Company.
E.I. DuPont de Nemours & Co.
Farmland Industries, Inc.
Fleet Wholesale Supply.
FMC Corporation.

Franchise Services Inc.
Furst-McNess Company.
General Electric.
Gold Bond Transport, Inc.
Handcraft, Div. of Gerber Products.
Hitachi Metals America.
The Hub Group, Inc.
Internatl. Communications Industry.
K Mart Corporation.
Kern Foods, Inc.
The Kroger Company.
Lakeside Packing Company.
Lenertz Trucklines Inc.
Thomas J. Lipton, Inc.
MacMillan Bloedel Building Materials.
C. Maxwell Trucking Co., Inc.
McCormick Co., Inc.
Henry S. Miller Co.
A.C.R. Inc.
Alumacraft Boat Co.
American Farm Bureau Federation.
American Isowall Corp.
American Precast Trucking.
Amerigas Inc.
Arcadian Motor Carriers.
Associated Wholesale Grocers.
Baker Industries Corp.
Blue Ridge Kenworth, Inc.
Bruning Paint Co.
Calif. Coalition for Truck Dereg.
Cargill, Inc.
JI Case Co.
Central Paper Co.
CFS Continental.
The Cincinnati Cordage & Paper Co.
Collins & Aikman Corporation.
Corn Products U.S.
CRST.
DeCarolis Truck Rental, Inc.
Drug & Toilet Preparation Traffic.
East Penn Mfg. Co., Inc.
Figgie International Inc.
Fleur De Lait Foods Ltd.
Food Marketing Institute.
Frito Lay, Inc./Exchange Park.
Gateway Foods of Minnesota, Inc.
General Motors Corporation.
Grocery Manufacturers Association.
Health Foods Inc.
Hot Tomato Express.
H.D. Hudson Manufacturing Company.
Johnson & Johnson.
Kenworth Truck.
Keystone Steel & Wire Co.
Labor Leasing Inc.
Leaseway Transportation.
Lever Brothers Co.
M.G. Industries.
Martin & Bayly Inc.
McCarty-Holman Co., Inc.
Herman Miles Trucking, Inc.
Milliken & Company.
3M.
John Morrell & Co.
Murray Elevators.
NASSTRAC.
Nat's-Amer. Wholesale Grocers' Assoc.
National Grocers' Association.
National Retail Merchants Assoc.
Nat'l. Wholesale Druggists' Assoc.
Sterling B. Nelson & Sons, Inc.
Osco Drug.
J.C. Penney Company, Inc.
Pfizer Inc.
Private Carrier Conference Inc.
Procter & Gamble.
Publix Supermarkets Inc.
Randall Stores Inc.
C.H. Robinson Co.
Royal Corporation Inc.
Ryder Financial/Communications Svcs.
Safeway Stores, Incorporated.
Scrivner, Inc.
The Sherwin-Williams Company.

J.R. Simplot Co.
Southern Screw.
A.E. Staley Manufacturing Co.
State Industries, Inc.
Stroehmann Bakeries Inc.
TEX-AID.
Trailer-Mate Inc.
Truck Renting and Leasing Assoc.
Union Carbide Corporation.
Universal Leaf Tobacco Company, Inc.
U.S. Enterprises.
Western Traffic Conference, Inc.
Wichita Sheet Metal Supply, Inc.
Mobay Corporation.
MPI Inc.
Nabisco Brands USA.
Natl. Agricultural Trans. Assoc.
Nat'l. Assoc. of Manufacturers.
Nat'l. Industrial Transpor. League.
Nat'l. Starch & Chemical Corporation.
NCH.
Occidental Chemical Corp.
Paccar Leasing Corp.
PET Inc.—St. Louis.
Philips ECG, Inc.
Private Truck Council of America.
Public Citizen.
Quaker Oats.
James River Corporation of VA.
Rollins Leasing Corp.
RSR Corporation.
Ryder Truck Rental, Inc.
Scott Paper Co.
Sears, Roebuck and Co.
Shippers Natl. Freight Claim Council.
Sioux Steel Company.
The Southland Corporation.
The Standard Oil Co.
Stenger Gas & Hdwe.
Super Valu Stores, Inc.
Tom's Foods Inc.
Trammel Crow Company.
Union Camp Corp.
Union Oil Co. of California.
Unocal Corporation.
Walgreen Company.
Westinghouse Electric Corporation.
Willett Nationalease Co.

Mr. President, today I am introducing by request legislation which would finish the job started by the MCA. This bill, the Trucking Productivity Improvement Act of 1987, would accomplish the following:

First, provide Federal economic deregulation of trucking companies which operate in interstate commerce, while retaining safety, insurance, and cargo liability requirements;

Second, eliminate all collective rate-making antitrust immunity for the trucking industry;

Third, preempt State economic regulation of the interstate and intrastate operations of interstate trucking companies;

Fourth, provide a mechanism for achieving uniformity of motor carrier administrative requirements;

Fifth, transfer ICC household goods consumer protection regulations to the Federal Trade Commission; and

Sixth, enable brokers to handle Government traffic.

Mr. President, the time has come to totally deregulate the trucking industry. This legislation not only would bring more competition to the general freight and household goods trucking industry through total deregulation, it

would also address many of the productivity and efficiency concerns raised by the truckers themselves. I am eager to move forward with this legislation and I urge my colleagues to join me in this effort.

Mr. President, I ask unanimous consent that the text of the Trucking Productivity Improvement Act of 1987 and a section-by-section description of this legislation be printed in the RECORD.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

S. 1710

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that this Act may be cited as the "Trucking Productivity Improvement Act of 1987."

PURPOSE OF THE ACT

SEC. 2. This Act is a part of the continuing effort by Congress to reduce unnecessary and burdensome government regulations in order to improve the efficiency of motor carrier transportation in the United States, thus enabling U.S. companies to become more productive and more competitive in domestic and world markets. It is intended to further amend the Interstate Commerce Act, as amended through the Surface Freight Forwarder Deregulation Act of 1986.

CONGRESSIONAL FINDINGS

SEC. 3. The Congress hereby finds that a safe, sound, competitive, and fuel efficient motor carrier system is vital to the maintenance of a strong national economy and a strong national defense; that the statutes governing Federal regulation of the motor carrier industry are outdated and must be revised to reflect the transportation needs and realities of the present and future; that, historically, the existing regulatory structure has tended in certain circumstances to inhibit market entry, carrier growth, maximum utilization of equipment and energy resources, and opportunities for minorities, small businesses, and others to enter the trucking industry; that protective regulation has resulted in operating inefficiencies and anticompetitive pricing, has tended to suppress technological and managerial innovation, and has tended to restrict the range of price and service options available to shippers; that available evidence suggests that many billions of dollars in savings to a broad range of U.S. industries have already been associated with the reforms of the Motor Carrier Act of 1980 and that removal of the remaining regulations and adoption of additional trucking productivity measures will result in additional savings which will enable U.S. companies to become much more productive and more competitive in domestic and world markets; that in order to reduce the uncertainty felt by the Nation's transportation industries, the Interstate Commerce Commission's remaining responsibilities for the regulation of motor carrier transportation should be eliminated; and that legislative and resulting changes should be implemented with the least amount of disruption consistent with achieving the reforms enacted.

GENERAL PROVISIONS

SEC. 4. Section 10101 of title 49, United States Code, is amended—

(a) in subsection (a)(2) by inserting "of passengers" after "motor carrier";

(b) in subsection (a)(2)(A) by striking "shippers, receivers,";

(c) in subsection (a)(2)(B) by striking "shipping and";

(d) in subsection (a)(2)(E) by striking "and small shippers";

(e) in subsection (a)(2)(H) by striking "and" after the semicolon;

(f) in subsection (a)(2)(I) add the connector "and" at the end thereof;

(g) in subsection (a)(3)

(1) by striking "(3) in regulating transportation by motor carrier of passengers";

(2) by striking "(A) to" and inserting "(I)" in lieu thereof;

(3) by striking "(B) to" and inserting "(J)" in lieu thereof; and

(4) by striking "(C) to" and inserting "(K)" in lieu thereof.

SEC. 5. Section 10102 of title 49, United States Code, is amended—

(a) in paragraph (9)(C)

(1) by inserting "a motor carrier of property or" after "transportation"; and

(2) by striking ", II," after "subchapter I"; and

(b) in paragraph (11) by striking "and such other similar property as the Commission may provide by regulation" each time it appears.

INTERSTATE COMMERCE COMMISSION

SEC. 6. Section 10322 of title 49, United States Code, is amended—

(a) in subsection (a)

(1) by striking ", or section 10934" at the end of the first sentence;

(2) by striking "10530," in the second sentence;

(3) by striking "10922(i)(2), 10922(i)(4)" in the second sentence and inserting "10922(h)(2)" in lieu thereof;

(4) by striking "10934(c)," in the second sentence; and

(5) by striking "10922(c)(2)(A)" in the third sentence and inserting "10922(b)(2)(A)" in lieu thereof;

(b) in subsection (b)(1) by striking "Except as provided in paragraph (2) of this subsection, a" and inserting "A" in lieu thereof;

(c) by striking subsection (b)(2); and

(d) by redesignating subsection (b)(3) as subsection (b)(2).

JURISDICTION

SEC. 7. Section 10521 of title 49, United States Code, is amended—

(a) in subsection (a)—

(i) by adding the following new sentence at the beginning of the subsection:

"Notwithstanding any provision of law other than sections 11343 and 11344 of this subtitle as amended by the Trucking Productivity Improvement Act of 1987, the Interstate Commerce Commission has no jurisdiction over motor carriers of property.";

(ii) by adding "of passengers" after "motor carrier" the first time it appears; and

(iii) by inserting "such" before "motor carrier" the second time it appears; and

(b) in subsection (b) by striking "10922(c)(2)" each time it appears and inserting "10922(b)(2)" in lieu thereof.

SEC. 8. Section 10522 of title 49, United States Code, is amended by inserting "of passengers" after "motor carrier" each time it appears.

SEC. 9. Section 10523 of title 49, United States Code, is repealed.

SEC. 10. Section 10524 of title 49, United States Code, is repealed.

Sec. 11. Section 10525 of title 49, United States Code, is amended—

- (a) by striking subsection (e); and
- (b) by redesignating subsection (f) as subsection (e).

Sec. 12. Section 10526 of title 49, United States Code, is amended—

- (a) by striking subsections (a)(4) through (a)(7) inclusive, (a)(11) through (a)(13) inclusive and (a)(15);

(b) in subsection (a)(8) by striking the paragraph designator "(A)" and by striking subsections (a)(8)(B) and (a)(8)(C);

(c) by redesignating subsections (a)(8) through (a)(10) as (a)(4) through (a)(6) and subsection (a)(14) as (a)(7), respectively;

(d) in subsection (b)(1)

- (1) by striking the dash after "except";

- (2) by striking subparagraph (A); and

(3) by striking the subparagraph designator "(B)";

(e) by striking subsection (b)(3); and

(f) by striking "; or" at the end of subsection (2) and inserting a period in lieu thereof.

Sec. 13. Section 10527 of title 49, United States Code, is repealed.

Sec. 14. Section 10528 of title 49, United States Code, is repealed.

Sec. 15. Section 10529 of title 49, United States Code, is repealed.

Sec. 16. Section 10530 of title 49, United States Code, is repealed effective six months after date of enactment of this act.

Sec. 17. Section 10561 of title 49, United States Code, is amended in subsection (b)(2) by striking "10526(a)(8)" and inserting "10526(a)(4)" in lieu thereof.

Sec. 18. The analysis of chapter 105 of title 49, United States Code is amended—

- (a) by striking

"10523. Exempt motor vehicle transportation in terminal areas.

"10524. Transportation furthering a primary business." and inserting in lieu thereof.

"10523. Repealed.

"10524. Repealed."; and

- (b) by striking

"10527. Written contracts pertaining to certain interstate movements by motor vehicle.

"10528. Mixed loads of regulated and unregulated property.

"10529. Limited authority over cooperative associations." and inserting in lieu thereof

"10527. Repealed.

"10528. Repealed.

"10529. Repealed."

RATES, TARIFFS, AND VALUATIONS

Sec. 19. Section 10702 of title 49, United States Code, is amended in subsection (b) by striking "shippers" in the second sentence and inserting "passengers" in lieu thereof.

Sec. 20. Section 10703 of title 49, United States Code, is amended—

- (a) by striking subsection (a)(4)(A); and by redesignating subsections (a)(4)(B) through (a)(4)(E) as subsections (a)(4)(A) through (a)(4)(D);

(b) in subsections (a)(4)(A) and (a)(A)(B) as redesignated by subsection (a) of this section by striking "(D)" and inserting "(C)" in lieu thereof; and

(c) in subsection (b) by striking ", II (insofar as motor carriers of property are concerned)."

Sec. 21. Section 10704 of title 49, United States Code, is amended in subsection (c)(1) by striking in the last sentence "motor or" each time it appears and by striking ", respectively."

Sec. 22. Section 10705 of title 49, United States Code, is amended—

- (a) in subsection (a)(1) by striking "(except a motor common carrier of property)";

(b) by striking subsections (b)(1) and (b)(2);

(c) by redesignating subsections (c) through (g) as subsections (b) through (f);

(d) in subsection (b) as redesignated, by striking the comma after "rail carrier" and inserting "or" in lieu thereof and by striking ", or motor common carrier of property" in the second sentence;

(e) in subsection (e) as redesignated by subsection (c) of this section by striking "or (b)";

(f) in subsection (f) as redesignated by subsection (c) of this section by striking (f)" after "subsection" and inserting "(e)" in lieu thereof; and

(g) by striking subsection (h).

Sec. 23. Section 10706 of title 49, United States Code, is amended—

- (a) in subsection (a)(2)(A) by striking "(c)(1) (B)-(E)" and inserting "(d)(1) (B)-(E)" in lieu thereof;

(b) by striking subsection (b)(3)(D) and by redesignating subsections (b)(3)(E) through (b)(3)(H) as subsections (b)(3)(D) through (b)(3)(G); and

(c) by striking subsection (b)(4) and by redesignating subsection (b)(5) as subsection (b)(4).

Sec. 24. Section 10708 of title 49, United States Code, is amended—

- (a) in subsection (d)(1) by striking "motor common carrier of property or";

(b) in subsections (d)(1)(A) and (d)(1)(B) by striking "carrier" each time it appears and inserting "household goods freight forwarder" in lieu thereof;

(c) in subsection (d)(2) by striking "motor common carriers of property or"; and

(d) in subsection (d)(2)(B)(i) by striking "carriers or".

Sec. 25. Section 10721 of title 49, United States Code, is amended in subsection (b)(1)—

- (a) by inserting after "title 39, and", the words "any qualified person";

(b) by striking "reduced" in the last sentence and inserting "tendered" in lieu thereof; and

(c) by striking "; except that any rates for the transportation of household goods for the United States Government shall not be predatory".

Sec. 26. Section 10725 of title 49, United States Code, is amended—

- (a) in subsection (a) by striking ", II."; and

(b) by striking subsection (c).

Sec. 27. Section 10730 of title 49, United States Code, is amended—

- (a) in subsection (a) by striking "including a motor common carrier of household goods but excluding any other motor common carrier of property and" and by striking ", II."; and

(b) in subsection (b)—

(i) in subparagraph (1) by striking "providing transportation or service subject to the jurisdiction to the Commission under subchapter II of chapter 105 of this title may, subject to the provisions of this chapter (including the general tariff requirements of section 10762 of this title), establish rates for the transportation of property (other than household goods) under which" and inserting "may agree with a shipper that" in lieu thereof; and

(ii) by amending subparagraph (2) to read as follows:

"Before a carrier may limit a contract of carriage for any service under paragraph (1)

of this subsection, it shall provide a contract of carriage for such service which does not limit the liability of the carrier."

Sec. 28. Section 10732 of title 49, United States Code, is amended—

- (a) by striking the title and inserting "Backhaul allowances" in lieu thereof;

(b) in subsection (a)

- (1) by striking the designator "(a)";

(2) by striking "food and grocery" each time it appears; and

(c) by striking subsection (b).

Sec. 29. Section 10733 of title 49, United States Code, is repealed.

Sec. 30. Section 10735 of title 49, United States Code, is repealed.

Sec. 31. Section 10741 of title 49, United States Code, is amended in subsection (c) by striking ", II."

Sec. 32. Section 10743 of title 49, United States Code, is amended—

- (a) in subsection (b)(1) by striking "for weekly or monthly payment for transportation provided by motor common carriers and"; and

(b) in subsection (b)(2) by striking the parenthetical phrase.

Sec. 33. Section 10744 of title 49, United States Code, is amended in subsection (a)(1) by striking ", motor."

Sec. 34. Section 10749 of title 49, United States Code, is amended—

- (a) in subsection (a) by striking ", or a motor contract carrier of property.";

(b) in subsection (b)(1)

- (1) by striking "motor," and ", or motor contract carrier of property";

(2) by striking the dash after "including";

(3) by striking subsection (b)(1)(A); and

(4) by striking the subsection designator

"(B)" in subsection (b)(1)(B); and

(c) by redesignating subsection (b)(2) as

subsection (b)(3) and inserting a new subsection (b)(2) as follows:

"(2) a motor common or contract carrier

of property; or"

Sec. 35. Section 10751 of title 49, United States Code, is amended by striking subsection (c).

Sec. 36. Section 10762 of title 49, United States Code, is amended—

- (a) in subsection (a)(1) by striking the last sentence; and

(b) by striking subsection (g).

Sec. 37. Section 10766 of title 49, United States Code, is amended—

- (a) in subsection (b) by striking ", providing transportation subject to the jurisdiction of the Commission under subchapter II of that chapter."; and

(b) in subsection (c) by striking "providing transportation subject to the jurisdiction of the Commission under subchapter II of such chapter," each time it appears.

Sec. 38. The analysis of chapter 107 of title 49, United States Code, is amended—

- (a) by striking

"10732. Food and grocery transportation."

and inserting in lieu thereof

"10732. Backhaul allowances.";

- (b) by striking

"10733. Rates for transportation of recyclable materials."

and inserting in lieu thereof

"10733. Repealed."; and

- (c) by striking

"10735. Household goods rates—estimates; guarantees of services.";

and inserting in lieu thereof

"10735. Repealed."

LICENSING

Sec. 39. Section 10922 of title 49, United States Code is amended—

(a) by striking subsections (b), and (k);
(b) by redesignating subsections (c), (d), (e), (f), (g), (h), (i), (j), and (l) as subsections (b), (c), (d), (e), (f), (g), (h), (i) and (j) respectively;

(c) in subsection (h) as redesignated—
(1) by striking subsections (h)(1) and (h)(2); and

(2) by redesignating subsections (h)(3) and (h)(4) as subsections (h)(1) and (h)(2);

(d) in subsection (i) as redesignated by subsection (b) or this section

(1) by striking subsection (i)(1); and
(2) by redesignating subsections (i)(2) and (i)(3) as subsections (i)(1) and (i)(2); and

(e) subsection (j) as redesignated by subsection (b) of this section is amended to read:

"(1) Whenever the President of the United States determines that the government of any foreign country contiguous to the United States, or the government of any political subdivision or any instrumentality of such country, has engaged in unfair, discriminatory, or restrictive practices that have a substantial adverse competitive impact upon a United States transportation company providing, or seeking to provide, motor carrier transportation of property or passengers to, from or within such foreign country, the President shall seek elimination of such practices through consultations.

(2) Notwithstanding any other provision of law, when consultations fail to result in the elimination of the unfair, discriminatory, or restrictive practices cited in subparagraph (1), the President may suspend, modify, amend, condition, or limit operations in the United States by motor carriers of property or passengers domiciled in such foreign country or owned or controlled by persons of such foreign country, if the President determines such action to be in the national interest. The President shall publish notice of such determination, including the reasons for the determination and the action being proposed, in the Federal Register. Unless the President determines that expeditious action is required, the President shall provide an opportunity for presentation of views concerning the taking of such action.

(3) The President may also remove or modify any action taken under subparagraph (2) if the President determines that such removal or modification is likewise in the national interest.

(4) The President may delegate any or all authority under this subsection to the Secretary of Transportation who shall consult with other agencies as appropriate. Any suspension, modification, amendment, condition, or limitation imposed under subparagraph (2), and documentary requirements that may be necessary to institute and enforce such actions, shall be accomplished in accordance with directions of the President under regulations issued by the Secretary of Transportation, in consultation with other agencies as appropriate. Such regulations and orders shall be enforced by the Department of Transportation, the Department of the Treasury, and the Department of Justice.

(5) This section shall in no way affect the requirement for all foreign motor carriers operating in the United States to comply fully with all applicable laws and regulations pertaining to safety fitness; safety of operation; financial responsibility; and taxes

imposed by section 4481 of the Internal Revenue Code of 1986."

Sec. 40. Section 10923 of title 49, United States Code, is amended—

(a) by striking subsections (b)(3) through (b)(6);

(b) by redesignating subsection (b)(7) as (b)(3);

(c) in subsection (d)(1) by striking ", except that in the case of a motor contract of property, the Commission may not require such carrier to limit its operations to carriage for a particular industry or within a particular geographic area"; and

(d) in subsection (d)(2)

(1) by inserting "of passengers" after "motor contract carrier";

(2) by striking "necessary conditions, including each person or class of persons (and in the case of a motor contract carrier of passengers,"; and

(3) by striking the parenthesis after "the number of persons"; and

Sec. 41. Section 10924 of title 49, United States Code, is amended—

(a) in subsection (a) by striking "of household goods subject to the jurisdiction of the Commission under subchapter II of Chapter 105 of this title,"; and

(b) by striking subsections (b) and (c) and by redesignating subsections (d), (e) and (f) as subsections (b), (c) and (d).

Sec. 42. Section 10927 of 49, United States Code, is amended—

(a) in subsection (a)(1) by striking

(1) "and a certificate of registration to a motor carrier or motor private carrier under section 10530 of this title";

(2) "the provisions of section 30 of the Motor Carrier Act of 1980, in the case of a motor carrier of property,";

(3) ", in the case of a motor carrier of passengers, or the laws of the State or States in which the carrier is operating, in the case of a motor private carrier"; and

(4) the parenthetical phrase; and

(b) in subsection (a)(2) by striking "and a foreign motor private carrier (as such term is defined under section 10530(a)(3) of this title"; and

(c) by striking subsection (a)(3).

Sec. 43. Section 10928 of title 49, United States Code, is amended in subsection (c)(1) by striking "not more than 90 days. Such authority for a period of not more than 90 days and, in addition, in the case of motor carriers of passengers, the Commission may extend such authority for a period of more than 90 days but".

Sec. 44. Section 10930 of title 49, United States Code, is amended in subsection (b)(2) by striking "Except for motor vehicle transportation subject to the jurisdiction of the Commission under subchapter IV of chapter 105 of this title by section 10523(a)(2) of this title, a" and inserting "A" in lieu thereof, and by striking ", water, or motor carrier" and inserting in lieu thereof "or water" and by striking ", II,".

Sec. 45. Section 10931 of title 49, United States Code, is repealed.

Sec. 46. Section 10932 of title 49, United States Code, is amended—

(a) by striking subsection (b); and

(b) by redesignating subsections (c) and (d) as subsections (b) and (c).

Sec. 47. Section 10934 of title 49, United States Code, is repealed.

Sec. 48. Section 10935 of title 49, United States Code, is amended in subsection (h) by striking "10922(c)(4)" and inserting "10922(b)(4)" in lieu thereof.

Sec. 49. The analysis of chapter 109 of title 49, United States Code, is amended—

(a) by striking

"10931. Motor common carriers providing transportation entirely in one state."

and inserting in lieu thereof

"10931. Repealed."; and

(b) by striking

"10934. Household Goods Agents."

and inserting in lieu thereof

"10934. Repealed."

OPERATIONS OF CARRIERS

Sec. 50. Section 11101 of title 49, United States Code, is amended by striking subsection (c).

Sec. 51. Section 11107 of title 49, United States Code, is repealed.

Sec. 52. Section 11109 of title 49, United States Code, is amended by striking the parenthetical phrase in each subsection.

Sec. 53. Section 111010 of title 49, United States Code, is repealed.

Sec. 54. Section 11145 of title 49, United States Code, is amended by striking subsection (c).

Sec. 55. The analysis of chapter 111 of title 49, United States Code, is amended—

(a) by striking

"11107. Leased motor vehicles." and inserting in lieu thereof

"11107. Repealed."; and

(b) by striking

"11110. Household Goods Carrier Operations."

and inserting in lieu thereof

"11110. Repealed."

FINANCE

Sec. 56. Section 11304 of title 49, United States Code, is amended in subsection (a)(1) by striking "a truck of rated capacity (gross vehicle weight) of at least 10,000 pounds, a highway tractor of rated capacity (gross combination weight) of at least 10,000 pounds, a property-carrying trailer or semitrailer with at least one load-carrying axle of at least 10,000 pounds, or"

Sec. 57. Section 11342 of title 49, United States Code, is amended—

(a) in subsection (a) by striking "property" in the second sentence and inserting "passengers" in lieu thereof; and

(b) in subsection (b)(1) by striking "property" wherever it appears and inserting "passengers" in lieu thereof.

Sec. 58. Section 11343 of title 49, United States Code, is amended—

(a) in subsection (a) by inserting ", or between a rail carrier and a motor carrier of property," after "of this title"; and

(b) in subsection (e)(1) by amending the initial clause to read as follows:

"Notwithstanding any provisions of this title, the Interstate Commerce Commission in a matter related to a rail carrier and a motor carrier of property, may exempt a transaction from the merger, consolidation, and acquisition of control provisions of this subchapter if the Commission finds that—"

Sec. 59. Section 11344 of title 49, United States Code, is amended in subsection (c) by inserting "of passengers or property" after "a motor carrier" in the fourth sentence.

Sec. 60. Section 11348 of title 49, United States Code, is amended in subsection (a) by striking "11901(f), (l)(1)" and inserting "11901(f), (h)(1)" in lieu thereof.

FEDERAL-STATE RELATIONS

Sec. 61. Section 11501 of title 49, United States Code, is amended by adding the following new subsection after subsection (f):

"(g) Notwithstanding any other provision of law, no State or political subdivision thereof and no interstate agency or other

political agency of two or more States shall enact or enforce any law, rule, regulation, standard, or other provision having the force and effect of law relating to interstate or intrastate rates, routes, or services of any owner or operator of a commercial motor vehicle that provides transportation of property in interstate commerce."

SEC. 62. Section 11504 of title 49, United States Code, is amended in subsection (b)(2) by striking "providing transportation subject to the jurisdiction of the Commission under subchapter II of this title" and inserting "of passengers and a motor carrier of property" in lieu thereof.

ENFORCEMENT, INVESTIGATIONS, RIGHTS, AND REMEDIES

SEC. 63. Section 11701 of title 49, United States Code, is amended—

(a) in subsection (a) by striking the sentence "If the Commission finds that a motor private carrier is violating section 10530 of this subtitle, the Commission shall take appropriate action to compel compliance with such section."; and

(b) in subsection (b) by striking "or a motor carrier or motor private carrier providing transportation under a certificate of registration issued under section 10530 of this title".

SEC. 64. Section 11702 of title 49, United States Code, is amended—

(a) in subsection (a)(2) by striking "10527 or"; and

(b) in subsection (a)(4) by striking "or by a motor carrier or motor private carrier providing transportation under a certificate of registration issued under section 10530 of this title".

SEC. 65. Section 11707 of title 49, United States Code, is amended—

(a) in subsection (a)(1) by striking "a freight forwarder" in the first sentence and substituting "(1) a freight forwarder and (2) a motor common carrier of property";

(b) in subsection (a)(1) by striking "The carrier or freight forwarder and any other common carrier" in the second sentence and substituting "That freight forwarder, motor common carrier of property, and any other common carrier";

(c) in subsection (a)(1) by striking "carrier of freight forwarder" in the fourth sentence and substituting "carrier, freight forwarder or motor common carrier of property"; and

(d) in subsection (a)(2) by striking "providing transportation subject to the jurisdiction of the Commission under subchapter II of chapter 105 of this title".

SEC. 66. Section 11711 of title 49, United States Code, is repealed.

SEC. 67. The analysis of chapter 117 of title 49, United States Code, is amended by striking

"11711. Dispute Settlement Program for Household Goods Carriers."

and inserting in lieu thereof

"11711. Repealed."

CIVIL AND CRIMINAL PENALTIES

SEC. 68. Section 11901 of title 49, United States Code, is amended—

(a) in subsection (g)

(1) by striking "or transportation provided under a certificate of registration issued under section 10530 of this title";

(2) by striking "(", "4)" and inserting "(", "or (4)" in lieu thereof;

(3) by striking "or (5) does not comply with section 10530 of this title"; and

(4) by striking the last two sentences.

(b) by striking subsections (h), (i), (j), and (k) and redesignating subsection (l) as subsection (h); and

(c) in subsection (h)(2) as redesignated, by striking "(", (i) (j)(1), or (k)".

SEC. 69. Section 11910 of title 49, United States Code, is amended in subsection (a)(2) by striking "motor carrier or" and "carrier or" each time they appear.

SEC. 70. Section 11914 of title 49, United States Code, is amended in subsection (b)—

(a) by striking out "this title" and inserting "this title," in lieu thereof; and

(b) by striking after "1966," the following:

"or a condition of a certificate of registration issued under section 10530 of this title."

SEC. 71. Section 11917 of title 49, United States Code, is amended in subsection (a) by striking "a" after "weight on" and inserting "an interstate" in lieu thereof and by striking "which is subject to the jurisdiction of the Commission under subchapter II of chapter 105 of this title".

FEDERAL TRADE COMMISSION

SEC. 72. (a) Motor carriers of property shall be subject to the jurisdiction of the Federal Trade Commission under the Federal Trade Commission Act, as amended, 15 U.S.C. 41-58 and §11 of the Clayton Act, 15 U.S.C. 21.

(b) The Federal Trade Commission is empowered exclusively to enforce the Interstate Commerce Commission's household goods regulations under 49 C.F.R. 1056 which shall remain in effect until revised or revoked by the Federal Trade Commission under subsection (c) of this section.

(c) The Federal Trade Commission shall institute a proceeding within 120 days of the enactment of this Act to review the necessity and effectiveness of those regulations and, where appropriate, make revisions (1) to ensure that shippers of household goods receive adequate protection in their dealings with carriers, and (2) to eliminate unnecessary regulations. The initial proceeding conducted to implement this section shall be governed by section 553 of title 5, and the Federal Trade Commission may dispense with the rulemaking requirements imposed under section 57a of title 15, except that any such rule promulgated shall be subject to the judicial review procedures of section 57a(e) of title 15. This proceeding shall be completed within one year after commencement of the proceeding.

(d) Not later than one year after the Federal Trade Commission issues its final regulations pursuant to subparagraph (c), all departments, agencies and instrumentalities of the United States shall revise and conform their rules and regulations pertaining to the transportation of household goods for the United States to those household goods regulations issued by the Federal Trade Commission.

(e)(1) Section 5(a)(2) of the Federal Trade Commission Act, as amended, (15 U.S.C. § 45(a)(2)) is amended by inserting "(except motor carriers of property)" immediately after "common carriers subject to the Acts to regulate commerce".

(2) Section 11(a) of the Clayton Act (15 U.S.C. § 21(a)) is amended by inserting "(other than motor carriers of property)" immediately after "common carriers subject to subtitle IV of Title 49".

(3) Section 8 of the Clayton Act (15 U.S.C. § 19) is amended by, in the fourth paragraph, inserting "(other than motor carriers of property)" immediately after "common carriers subject to subtitle IV of Title 49".

(4) Section 10 of the Clayton Act (15 U.S.C. § 20) is amended by inserting "(other than a motor carrier of property)" immedi-

ately after "common carrier engaged in commerce".

DEPARTMENT OF TRANSPORTATION

DUTIES AND POWERS

SEC. 73. Section 503 of title 49, United States Code, is amended—

(a) in the title by inserting "motor carriers of property," after "and process on";

(b) in subsection (a) by inserting "of property and each motor carrier" immediately after "Each motor carrier";

(c) in subsection (a) by inserting "operating in the United States," after "motor private carrier"; and

(d) in subsection (a) by adding the following new sentence after the second sentence of the subsection:

"If the designation is made on behalf of a motor carrier not domiciled in the United States, the designation shall indicate the country of the motor carrier on whose behalf the designation is made."

SEC. 74. Chapter 5 of title 49 United States Code is amended by adding the following section:

"508. Two years from the effective date of this Act, the Secretary of Transportation shall submit a status report and evaluation, including recommendations, to Congress concerning the National Governors' Association Consensus Agenda on standards for uniform State regulation of interstate motor carriers in regard to vehicle registration, fuel tax, and third-structure tax requirements."

SEC. 75. The analysis of chapter 5 of title 49, United States Code, is amended—

(a) in section 503 by inserting "motor carriers of property," after "and process on"; and

(b) by inserting "508. Uniform state administrative requirements."

SEC. 76. Section 3102 of title 49, United States Code, is amended in subsection (a) by striking all after the hyphen and inserting in lieu thereof:

"(1) between a place in—

(A) a State and a place in another State;

(B) a State and another place in the same State through another State;

(C) the United States and a place in a territory or possession of the United States to the extent the transportation is in the United States;

(D) the United States and another place in the United States through a foreign country to the extent the transportation is in the United States; or

(E) the United States and a place in a foreign country to the extent the transportation is in the United States; and (2) in a reservation under the exclusive jurisdiction of the United States or on a public highway."

SEC. 77. Section 3104 of title 49, United States Code, is amended in subsection (a) by adding the following new paragraph:

"(3) require each of those motor carriers, motor private carriers, and motor carriers of migrant workers to display on the vehicle the name of the carrier and such other information as the Secretary may require."

EFFECT OF REPEAL OF ANTITRUST IMMUNITY FOR AGREEMENTS AND MERGERS

SEC. 78. (a) On the effective date of this Act, all orders issued by the Interstate Commerce Commission under provisions of subtitle IV of title 49, United States Code, granting an exemption or immunity from the antitrust laws as set forth in subsection (a) of section 1 of the Clayton Act (15 U.S.C. § 12(a)) relative to an agreement between or among motor carriers of property, shall

cease to be in effect and conduct pursuant to such an agreement shall be subject to such antitrust laws; *Provided*, that no conduct that occurred prior to the effective date of this Act, pursuant to an order and antitrust exemption in effect at the time of such conduct, shall be subject to such antitrust laws.

(b) No merger between or among motor carriers of property approved prior to the effective date of this Act by the Interstate Commerce Commission under subchapter III of chapter 113 of title 49, United States Code, shall be subject to such antitrust laws.

SEVERABILITY

SEC. 79. If any provision of this Act, or the application of such provision to any person or circumstance, is held invalid, the remainder of this Act and the application of such provision to any other person or circumstance shall not be affected by such invalidation.

EFFECTIVE DATE

SEC. 80. This Act shall take effect 60 days after enactment.

SECTION-BY-SECTION ANALYSIS OF THE TRUCKING PRODUCTIVITY IMPROVEMENT ACT OF 1987

This bill eliminates all federal economic regulation of the trucking industry; it eliminates entry controls and rate regulation; eliminates antitrust immunity for collective ratemaking; eliminates tariff publication requirements; eliminates the "common carrier obligation"; and transfers jurisdiction for consumer protection in household goods operations to the Federal Trade Commission.

The increased range of trucking price and service options available to shippers in a broad range of U.S. industries have resulted in savings of many billions of dollars in reduced transportation, inventory and merchandising costs. Elimination of the remaining regulations and adoption of specific trucking productivity measures contained in this bill will enhance such savings and enable U.S. companies to become much more productive and competitive in domestic and world markets.

SECTION 1

The short title of the bill is the "Trucking Productivity Improvement Act of 1987."

SECTION 2

The purpose of the bill is to reduce unnecessary and burdensome government regulations in order to improve the efficiency of transportation by motor carriers of property in the United States, thus enabling U.S. companies to become more productive and competitive in domestic and world markets.

SECTION 3

This section states the findings of Congress. It sets out that the statutes governing Federal regulation of motor carriers of property are outdated and must be revised and additional trucking productivity measures be adopted.

SECTION 4

This section amends the transportation policy of the Interstate Commerce Act to reflect the elimination of economic regulation of motor carriers of property.

SECTION 5

This section makes conforming amendments to the definitions section of subtitle IV of title 49 USC because, under this Act, the ICC will no longer have jurisdiction over motor carriers of property and will no longer regulate household goods transporta-

tion by motor carrier. The definitions of the terms referring to motor carriers ("motor carrier", "motor common carrier", "motor contract carrier", etc.) are not amended because these are generic terms referenced by other subchapters of title 49 (see 49 U.S.C. § 3101). It is the intent of this Act that, when used in reference to the ICC's functions, unless otherwise indicated, these terms will refer only to bus operations. Accordingly, amendments modifying references to motor carriers to mean carriers of passengers have been included throughout this Act.

SECTION 6

This section deletes the procedural guidelines of section 10322 of title 49 USC for handling applications involving motor carrier transportation incidental to trailer on flatcar or container on flatcar service by rail or registration certificates for foreign motor carriers. This is a conforming change, since this legislation eliminates the necessity for applying to the Interstate Commerce Commission for any kind of motor carrier authority.

SECTION 7

This section amends section 10521 of title 49 USC to remove Interstate Commerce Commission jurisdiction over motor carriers of property. The reference to property in the second sentence of the initial paragraph of subsection (a), as amended, refers to property transported by buses incidental to their passenger service.

SECTION 8

This section amends section 10522 of title 49 USC. It removes the requirement that motor carriers of property providing transportation between Alaska and another state must comply with Interstate Commerce Commission regulations.

SECTION 9

This section repeals section 10523 of title 49 USC. It removes the exemptions for motor vehicle transportation within terminal areas provided by water carriers, rail carriers, freight forwarders, and express carriers. Such exemptions will not be necessary with the removal of regulation of motor carriers of property provided by this bill.

SECTION 10

This section repeals section 10524 of title 49 USC. It removes the exemption from Interstate Commerce Commission jurisdiction for private carriage by motor vehicle. With the deregulation of motor carriers of property by this bill, such an exemption is no longer required.

SECTION 11

This section strikes subsection (e) of section 10525 of title 49 USC to preclude regulation of interstate transportation within Hawaii by that State. No other changes to section 10525 are necessary, because this section will apply only to motor carriers of passengers.

SECTION 12

This section amends section 10526 of title 49 USC. It repeals all exemptions of motor carriers of property from Interstate Commerce Commission jurisdiction. With complete deregulation of motor carriers of property such exemptions are not required.

SECTION 13

This section repeals section 10527 of title 49 USC pertaining to written contracts concerning interstate movements by motor vehicles. The Interstate Commerce Commission and the Secretary of Agriculture have

determined that requiring written contracts between owners or operators of motor vehicles and brokers, shippers, and receivers is not necessary.

SECTION 14

This section repeals section 10528 of title 49 USC concerning mixed loads of regulated and unregulated property. With motor carriers of property completely deregulated, such distinctions are no longer necessary.

SECTION 15

This section repeals section 10529 of title 49 USC concerning the Interstate Commerce Commission's reporting requirements for cooperative associations. With motor carriers of property completely deregulated, these reporting requirements are no longer necessary.

SECTION 16

Section 16 repeals the existing requirement for carriers of exempt commodities and private carriers from affected foreign countries to obtain the certificate of registration established under section 10530 of title 49, United States Code (section 206 of the Motor Carrier Safety Act of 1984), effective six months after date of enactment of this Act. Instead, section 10922(1) is amended by this bill to provide the President with more flexible authority to respond to discriminatory actions against U.S. carriers (see section 39, *infra*). The six month delay is intended to allow sufficient time to put regulations into place as appropriate.

SECTION 17

This section amends section 10561 of title 49 USC to conform to the change provided in section 12 of this bill.

SECTION 18

This section makes conforming changes in the analysis of Chapter 105 of title 49 USC to reflect the changes introduced by sections 7 through 17.

SECTION 19

Because motor common and contract carriers of property will no longer be subject to Interstate Commerce Commission jurisdiction by operation of other provisions of this bill, this section makes a conforming amendment to section 10702 of title 49 USC, which requires a carrier to file tariffs with the Interstate Commerce Commission, to narrow its application to only motor contract carriers of passengers.

SECTION 20

This section amends section 10703 of title 49 USC by removing the statutory reference to the authority of motor common carriers of property to establish through routes and joint rates and classification with other carriers; however, this does not preclude motor common carriers from entering into such arrangements.

SECTION 21

This section amends section 10704 of title 49 USC to remove Interstate Commerce Commission authority to protect motor common carriers from unreasonable competition from motor contract carriers.

SECTION 22

This section amends section 10705 of title 49 USC by removing the authority of the Interstate Commerce Commission over motor common carriers of property to prescribe through routes, joint classification, joint rates, the division of rates, and the conditions under which those routes must be operated.

SECTION 23

This section amends section 10706 of title 49 USC by removing Interstate Commerce Commission jurisdiction for providing antitrust immunity to motor carriers of property. Under the provisions of section 78 of this legislation, elimination of antitrust immunity will occur on the effective date of this Act. This section does not disturb antitrust immunity for motor carriers of passengers or other carriers.

SECTION 24

This section amends section 10708 of title 49 USC to remove Interstate Commerce Commission jurisdiction to investigate, suspend, revise, or revoke any rate of a motor common carrier of property on the grounds that such rate is unreasonably high or low. The "zone of rate freedom" provided by the Motor Carrier Act of 1980 would remain applicable only to household goods freight forwarders.

SECTION 25

This section amends section 10721 of title 49 USC, which deals with special rate provisions for government traffic. It removes Interstate Commerce Commission jurisdiction to suspend and investigate rates for the transportation of household goods for the U.S. Government on the basis that such rates may be predatory and broadens the scope of transportation options available to the United States Government by authorizing the use of such "noncommon" carriers as freight forwarders and brokers.

SECTION 26

This section amends section 10725 of title 49 USC by removing the conditions concerning special rates of motor carriers of property when such carriers deal with household goods freight forwarders.

SECTION 27

This section amends section 10730 of title 49 USC to retain this portion of the so-called Carmack Amendment with one important difference. The involvement of the Interstate Commerce Commission is removed with respect to these agreements between shippers and motor common carriers of property. Under this amendment a shipper and a carrier may agree to limit the liability of the carrier as long as the carrier also offers a contract of carriage without such limitation. Disputes concerning such agreements would be adjudicated under uniform federal law.

SECTION 28

This section amends section 10732 of title 49 USC by removing the requirement that the Interstate Commerce Commission monitor and report annually on the effects of "backhaul allowances" (discounts for customers of food and grocery products who pick up those products at the shipping point of the seller), and by extending the lawfulness of backhaul allowances to all industries. It is intended, for purposes of this section, that the "actual cost" basis for computing such allowances need not be limited to the cost avoided by sellers.

SECTION 29

This section amends section 10733 of title 49 USC, which provides statutory permission for free or reduced transportation rates for recyclable materials carried by motor carriers of property. The ability to provide such transportation at reduced rates is not precluded by the amendment.

SECTION 30

This section repeals section 10735 concerning household goods rates and guaran-

tees of service. With deregulation of motor carriers of property this section is no longer necessary. There is no intent to preclude or limit carrier activities described in this section.

SECTION 31

This section amends section 10741 of title 49 USC by removing the general prohibition of motor carrier discrimination against freight forwarder services. With deregulation of motor carriers of property, this section is no longer necessary. Instead, the antitrust laws would apply to pricing practices of motor carriers of property in the same way as they apply to other non-regulated industries.

SECTION 32

This section amends section 10743 of title 49 USC by removing the prompt payment provisions relating to motor common carriers.

SECTION 33

This section amends section 10744 of title 49 USC by removing the requirements concerning liability for payment of rates for property transportation by motor carriers.

SECTION 34

This section amends section 10749 of title 49 USC by deleting the provision that motor carriers of property regulated by the Interstate Commerce Commission may exchange services with telephone, telegraph, or cable companies. With the deregulation provided by this bill, motor carriers of property do not need express permission to exchange services with other companies.

SECTION 35

This section amends section 10751 of title 49 USC by deleting the subsection which provides that the Interstate Commerce Commission institute a proceeding for the establishment of standards and guidelines for authorized business entertainment expenses.

SECTION 36

This section amends section 10762 of title 49 USC by removing the requirement for motor carriers of property to publish, file, and keep tariffs open for public inspection.

SECTION 37

This section amends section 10766 by deleting the requirement that freight forwarders may only contract with Interstate Commerce Commission regulated motor carriers of property.

SECTION 38

This section makes changes in the analysis of Chapter 107 of title 49 to conform to the changes made in sections 19 through 37.

SECTION 39

This section amends section 10922 of title 49 USC by striking the language concerning entry requirements for motor common carriers of property. With these changes section 10922 will deal only with entry requirements for motor carriers of passengers as amended by the Bus Regulatory Reform Act of 1982.

This section replaces the Presidential moratorium provision under section 10922(1) of title 49, which was added by the Bus Regulatory Reform Act of 1982 to limit the ICC's approval of foreign-owned trucking operations in the United States due to discriminatory treatment by their governments. This section authorizes the President to seek consultations to eliminate discriminatory practices by governments of countries contiguous to the United States that have a substantial adverse competitive

impact on a U.S. transportation company providing, or seeking to provide, motor carrier transportation of property or passengers in those countries. If consultations fail to eliminate such practices, the President may impose restrictions on foreign motor carriers' access to the U.S., if the President determines such action to be in the national interest. These provisions provide greater flexibility in the type of response that may be taken to discriminatory actions by foreign governments. Not only may the President limit entry as under current law, but the President may also modify or condition operations of foreign carriers.

It should also be noted that section 16 of this bill repeals the registration requirements for foreign motor carriers under section 10530 of title 49, United States Code, effective six months after the date of enactment.

SECTION 40

This section amends section 10923 of title 49 USC to strike the language concerning entry requirements for motor contract carriers of property. With these changes, section 10923 will deal only with entry requirements for motor contract carriers of passengers as amended by the Bus Regulatory Reform Act of 1982.

SECTION 41

This section amends section 10924 of title 49 USC by deleting the requirement that brokers use only Interstate Commerce Commission regulated carriers.

SECTION 42

This section amends section 10927 of title 49 USC by removing the language dealing with security and insurance requirements for motor carriers of property, as well as reference to registration certificates for foreign motor carriers.

SECTION 43

This section amends section 10928 of title 49 USC by removing the time limitation for the grant of temporary authority for motor carriers of property. Since this bill removes entry requirements for such carriers to operate, they will not need temporary authority.

SECTION 44

This section amends section 10930 of title 49 USC to delete the reference to section 10523, which is repealed by section 9 of this bill. The net effect of these two changes is to permit freight forwarders to conduct both long haul and terminal area operations.

SECTION 45

This section repeals section 10931 of title 49 USC. Section 10931 provides for Interstate Commerce Commission Grants of interstate motor carrier authority under certificates of registration for intrastate carriers who provide transportation entirely in one state.

SECTION 46

This section amends section 10932 of title 49 USC by striking the language permitting motor carriers certificated under section 10931 to continue to provide such transportation as long as the intrastate certificates so provide.

SECTION 47

This section repeals section 10934 of title 49 USC that confers special antitrust immunity upon certain business relationships between a household goods van line and its own local agents because principal-agent re-

relationships are satisfactorily governed under common law.

SECTION 48

This section amends section 10935 of title 49 USC to conform to the change provided by section 39 of this bill.

SECTION 49

This section amends the analysis section of Chapter 109 of title 49 USC to conform to the changes made by sections 44 and 47.

SECTION 50

This section amends section 11101 of title 49 USC to conform to the change provided in section 7 of this bill, and by implication removes the authority of the Interstate Commerce Commission to prescribe requirements for continuous and adequate transportation service by motor carriers of property under the so-called "common carrier obligation."

SECTION 51

This section repeals section 11107 of title 49 USC. The result is to repeal all Interstate Commerce Commission requirements concerning leasing arrangement for motor carriers of property. Such arrangements can be made satisfactorily under normal commercial law.

SECTION 52

This section amends section 11109 of title 49 USC by making conforming changes to reflect the deregulation of transportation by motor carriers of property. It retains the prohibition against "lumping," a practice of forcing truckers, by threat of violence, to accept unloading assistance, when such assistance is not needed.

SECTION 53

This section repeals section 11110 of title 49 USC. Interstate Commerce Commission jurisdiction over household goods operations is transferred to the Federal Trade Commission under section 72.

SECTION 54

Section 11145 of title 49 USC authorizes the Interstate Commerce Commission to require periodic and special reports by carriers subject to its jurisdiction, and requires the Commission to streamline such reports in the case of motor carriers of property. Section 54 deletes the requirement that the Commission streamline reports by motor carriers of property, and by implication removes such carriers from all reporting requirements.

SECTION 55

This section amends the analysis section of Chapter 111 of title 49 USC to conform to the changes made by sections 51 and 53.

SECTION 56

This section amends section 11304 of title 49 USC by deleting trucks from the definition of motor vehicles. As a result of this amendment, trucks that were previously regulated by the Interstate Commerce Commission will no longer be entitled to preferential financing.

SECTION 57

This section amends section 11342 of title 49 USC by removing the power of the Interstate Commerce Commission to approve pooling agreements and agreements dealing with division of transportation or earnings among motor carriers of property. Removing this power has the effect of subjecting such agreements to the antitrust laws as defined in the first section of the Clayton Act (15 U.S.C. § 12).

SECTION 58

Because motor carriers of property would no longer be subject to ICC jurisdiction, mergers of two or more motor carriers of property would be subject to the antitrust laws, most notably section 7 of the Clayton Act (15 U.S.C. § 18). However, it is intended that the ICC still retain jurisdiction over mergers between a rail carrier and a motor carrier of property. Therefore this section makes conforming amendments to subsections (a) and (e) of section 11343 of title 49, United States Code, in order to preserve ICC authority to approve, or exempt from approval, rail-truck mergers.

SECTION 59

This section makes a conforming amendment to section 11344 of title 49 USC in order to keep in force the criteria for Commission approval of transactions involving consolidation, merger, and acquisition of control of motor carriers of passengers or property by rail carriers.

SECTION 60

This section amends section 11348 to conform to the changes provided in section 68 of this bill.

SECTION 61

This section amends section 11501 of title 49 USC by adding a new subsection (g) which prevents state and other political agencies from enacting or enforcing any economic regulation concerning interstate or intrastate rates, routes, or services of any interstate motor carrier of property. For purposes of this Act, an interstate motor carrier of property means a carrier that operates in or between two or more states or between a state and a foreign country. This provision is not intended to abridge any state authority regarding the establishment and enforcement of motor carrier safety measures.

SECTION 62

This section amends section 11504 of title 49 USC by making conforming amendments to the regulations concerning state withholding of income taxes for motor carriers.

SECTION 63

This section amends section 11701 of title 49 USC by making conforming amendments deleting the Interstate Commerce Commission authority to compel compliance with section 10530 of title 49, which requires certificates of registration for foreign motor carriers of property. That authority is transferred to the Secretary of Transportation under sections 16 and 74 of this bill.

SECTION 64

This section amends section 11702 of title 49 USC to conform to the changes provided in sections 13, 16, and 74 of this bill.

SECTION 65

This section amends section 11707 of title 49 USC to retain this portion of the so-called Carmack amendment with one important difference. Section 11707 provides the legal standards of liability of common carriers under receipts and bills of lading. This amendment means that motor common carriers of property, while no longer subject to Interstate Commerce Commission jurisdiction, will continue to be subjected to standards of liability of Section 11707 of the Interstate Commerce Act, as amended.

SECTION 66

This section repeals section 11711 of title 49 USC, which authorizes dispute settlement programs for household goods carriers. The household goods consumer protec-

tion function will shift to the Federal Trade Commission. Moreover, carriers do not need specific statutory authority to set up dispute settlement programs.

SECTION 67

This section amends the analysis section of Chapter 117 of title 49 USC to conform to the change made by section 66.

SECTION 68

This section amends section 11901 of title 49 USC. Section 11901 provides for penalties against carriers for violations of various aspects of the Interstate Commerce Act. This section has the effect of removing from section 11901 penalties against motor carriers of property. The Federal Trade Commission Act, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Superfund Act) and, with respect to violations of section 10530 (certificates of registration for foreign carriers), the Secretary's enforcement authority, provide for appropriate civil penalties.

SECTION 69

This section amends section 11910 of title 49 USC by deleting motor carriers of property from the unlawful disclosure provisions of section 11910, since such carriers will no longer be subject to regulation by the Interstate Commission.

SECTION 70

This section amends section 11914(b) of title 49 USC by removing applicability of the general criminal penalty under that section to violations of the registration requirements for foreign carriers under section 10530 of title 49, which is repealed by section 16 of this bill.

SECTION 71

This section makes a conforming amendment to section 11917 of title 49 USC by deleting a reference to Interstate Commerce Commission jurisdiction over household goods, which is transferred to the Federal Trade Commission under section 72 of this Act.

SECTION 72

This section states that the Federal Trade Commission Act shall apply to motor carriers of property. The section also directs the Federal Trade Commission to enforce the Interstate Commerce Commission's household goods regulations and to conduct a review of those regulations and revise them as appropriate. Once the revised regulations are issued, other federal agencies are directed to conform their regulations accordingly.

SECTION 73

This section amends section 503 of title 49 USC by requiring motor carriers to property operating in the U.S., including foreign and private motor carriers, to designate agents for service of notice and process with the Department of Transportation. Prior to enactment of this bill such designations had to be filed with the Interstate Commerce Commission. Section 75 also requires that agent designations made on behalf of a carrier not domiciled in the United States indicate the nationality of the carrier on whose behalf the designation is being made.

SECTION 74

This section requires the Secretary to submit a report to Congress within 2 years concerning progress in achieving uniform state administrative requirements for motor carriers.

SECTION 75

This section makes changes in the analysis of chapter 5 of title 49 USC to conform to the change made by section 75.

SECTION 76

This section amends section 3102 of title 49, United States Code, to make a conforming change in order to preserve the authority of the Secretary of Transportation to regulate requirements for qualifications, hours of service and safety and equipment standards for interstate motor carriers. The language tracks the description of interstate transportation in sections 10521 and 10522 of title 49, United States Code.

SECTION 77

This section amends section 3104 of title 49 USC by adding motor carriers of property to those carriers which may be required to display identification plates on their vehicles.

SECTION 78

This section clarifies the post-enactment status of any previously-approved and immunized mergers among motor carriers of property and any existing agreements between motor carriers of property that possess antitrust immunity (rate and pooling agreements). Such mergers will not be subject to retrospective antitrust challenge after the effective date of this Act. Likewise, conduct pursuant to any agreements immunized prior to the effective date will not be subject to retrospective challenge. However, any agreement or conduct under such agreement that continues after the effective date will be fully subject to the antitrust laws.

SECTION 79

This provision sets out the severability clause for the Act.

SECTION 80

This section provides that the Act shall take effect 60 days after enactment.■

By Mr. BENTSEN (for himself, Mr. MOYNIHAN, Mr. CHAFEE, Mr. BRADLEY, Mr. CRANSTON, Mr. DECONCINI, Mr. DURENBERGER, Mr. GRAHAM, Mr. INOUE, Mr. MATSUNAGA, Mr. MITCHELL, Mr. REID, Mr. RIEGLE, and Mr. STENNIS):

S. 1711. A bill to amend the Social Security Act to establish a National Commission on Children; to the Committee on Labor and Human Resources.

NATIONAL COMMISSION ON CHILDREN

■ Mr. BENTSEN. Mr. President, in recent years, as never before, America's scholars, writers, and researchers have brought vividly to our minds and to our consciences the fact that our children are facing an increasing array of serious problems, many of which grow out of fundamental changes in the way we live with work.

It is my view, Mr. President, that the time has come to move beyond the inventory of the problems, and on to the complex and challenging task of charting a course to resolve them for the sake of our children.

This is a group that doesn't vote, it has no political clout, and yet represents our destiny as a nation. As a nation, we should strive to see them

have whole and healthy bodies and minds, not only because we are a compassionate people, but because in this tough competitive world of ours this country can afford no less.

We need to emphasize children's issues not only for social reasons but because they make economic sense as well. Investments in prenatal health care are returned three to one in the first year of a child's life. To understand the depths of the problem, one has only to experience the anguish of a young mother whose 2-year old is faced with chronic illness or major surgery. Next to cancer among adults, serious illness among premature babies is one of the costliest hospital stays. There is no way a nation like ours can close its eyes to correctable conditions which otherwise condemn young people to lifelong illness.

There is no need to document here the many problems that befall our children and that have been chronicled so poignantly by many others. But a few should be mentioned because they underscore the magnitude, and the importance, of the challenge before us.

One quarter of our children live with a single parent.

Twenty percent of the babies in America are born to unwed mothers.

In an ocean of prosperity, one-fifth of our children live on barren islands of poverty.

Some 700,000 teenagers dropped out of school last year, with a substantial percentage destined to experience long-term unemployment and poverty.

How much richer we all would be if we could prevent, or reduce the impact of, these and other misfortunes that befall so many, and which impede the fulfillment of hopes and dreams.

I believe that we in the Congress have a responsibility to serve as a catalyst in this process. To this end, I propose the immediate establishment of a bipartisan National Commission on Children. I propose that this Commission be a forum on behalf of all the children of America.

This Commission, which will be broadly representative, will conduct public hearings in all regions of the country, urban and rural, gathering the views of Americans from all walks of life on how we—as a nation—can safeguard and enhance the physical, mental, and emotional well-being of our children and youth. I foresee this Commission being the source of ideas and strategies from which can spring the national resolve to assure productive futures for coming generations.

Much has been written on problems relating to children. But we have yet to see a comprehensive examination of the status of children that highlights the critical interaction of family, school, and community. And we have yet to see a comprehensive and critical analysis of the contributions that can

and should be made by both public and private institutions.

The National Commission on Children will conduct such an examination and provide such an analysis. No later than September 30, 1988, the Commission will submit a report to the President and the Congress that sets forth its findings and recommendations.

I believe that this report will encourage all candidates running for public office in 1988 to pay close attention to children's issues, and to focus on how they believe America can ensure the future well-being of our youngest citizens.

The Commission will direct its attention to four specific areas of concern:

First, the Commission will examine questions relating to the health of children, including:

How to reduce infant mortality; how to reduce the number of low birth-weight babies; how to reduce the number of children with chronic illnesses and disabilities; how to improve the nutrition of children; how to promote the physical fitness of children; how to ensure that pregnant women receive adequate prenatal care; how to ensure that all children have access to both preventive and acute care health services; and how to improve the quality and availability of health care for children.

Second, the Commission will examine questions relating to social and support services for children and their parents, including:

How to prevent and treat child neglect and abuse; how to provide help to parents who seek assistance in meeting the problems of their children; how to provide counseling services for children; how to strengthen the family unit; how children can be assured of adequate care while their parents are working or participating in education and training programs; how to improve foster care and adoption services; how to reduce drug and alcohol abuse by children and youths; and how to reduce the incidence of teenage pregnancy.

Third, the Commission will examine questions relating to education, including:

How to encourage academic excellence for all children at all levels of education; how to use preschool experiences to enhance educational achievement; how to improve the qualifications of teachers; how schools can better prepare the Nation's youth to compete in the labor market; how parents and schools can work together to help children achieve success at each step of the academic ladder; how to encourage teenagers to complete high school and remain in school to fulfill their academic potential; how to address the problems of drug and alcohol abuse by young people; how schools might lend support to efforts

aimed at reducing the incidence of teenage pregnancy; and how schools might better meet the special needs of children who have physical or mental handicaps.

Finally, the Commission will examine questions relating to income security, including:

How to reduce poverty among children; and how to ensure that parents support their children to the fullest extent possible through improved child support collection services, including services on behalf of children whose parents are unmarried.

In addition, the Commission will be asked to seek to identify ways in which public and private organizations and institutions can work together at the community level to identify deficiencies in existing services for families and children and to develop recommendations to ensure that the needs of families and children are met, using all available resources, in a coordinated and comprehensive manner.

The Commission will be composed of 36 members—12 members appointed by the President, 12 by the Speaker of the House of Representatives, and 12 by the President pro tempore of the Senate.

The President, the Speaker and the President pro tempore will each appoint as members of the Commission:

First. Four individuals who are representatives of organizations providing services to children, are involved in activities on behalf of children, or have engaged in academic research with respect to the problems and needs of children;

Second. Four individuals who are elected or appointed public officials involved in issues and programs relating to children; and

Third. Four individuals who are parents or representatives of parents or parents' organizations.

These appointments will be made in consultation with the chairmen of the committees of the House of Representatives and the Senate that have jurisdiction over relevant Federal programs.

We know that answers to the many questions that the Commission will address will not come easily. But we also know that there are remarkable resources upon which it can draw. Across this land there are educators, health care professionals, religious leaders, providers of social services, public officials, and parents and children themselves who share the hope and belief that answers can be found. And I know they are willing and eager to join in the search. It will be the task of the Commission to seek out, and to enlist the aid of these able and interested Americans.

It is my hope, Mr. President, that we in the Congress will let our children and their families know that they have our full attention, that we care

about them, that they are, in fact, at the top of the Nation's agenda.

I urge my colleagues to support this bill, and to join in the effort to forge a new consensus on behalf of America's children.●

By Mr. WALLOP:

S.J. Res. 190. Joint resolution to authorize and request the President to issue a proclamation designating June 6-12, 1988, as "National Fishing Week"; to the Committee on the Judiciary.

NATIONAL FISHING WEEK

● Mr. WALLOP. Mr. President, millions of Americans enjoy fishing in our Nation's beautiful streams, rivers, lakes, bordering oceans, and other waterways. It is in honor of our anglers that I am today introducing legislation authorizing and requesting the President to designate June 6-12, 1988, as "National Fishing Week."

This wholesome activity not only provides protein-rich food and thousands of hours of entertainment, but also generates \$25 billion of economic activity and 300,000 jobs per year. Moreover, fishing brings families and neighborhoods together. It is a wonderful opportunity for children, handicapped persons, older Americans, and others to learn about our rich natural resources and the benefits of fishing. This pursuit is the second most popular recreational activity in this Nation, and fully one-third of all citizens go fishing each year. In my family, it is the most popular leisure-time activity. We rejoice in it. We are rejuvenated by it and we anticipate it.

During National Fishing Week 1987, there were celebrations and fishing events across the country. Fishing clinics and contests provided many children with their first opportunity to enjoy our rich natural resources. Efforts were also undertaken to educate the public on the necessity of protecting and enhancing our environment.

Mr. President, 60 Senators joined me in cosponsoring National Fishing Week in 1987. Clearly, the Senate endorses recognizing the pleasure, nourishment, and economic strength that fishing brings to the American public. I would urge all Senators to join me in honoring our Nation's fishermen by cosponsoring my bill to designate June 6-12, 1988 as "National Fishing Week."●

ADDITIONAL COSPONSORS

S. 27

At the request of Mr. MOYNIHAN, the name of the Senator from Rhode Island [Mr. CHAFEE] was added as a cosponsor of S. 27, a bill to establish the American Conservation Corps, and for other purposes.

S. 74

At the request of Mr. GRAMM, the names of the Senator from Michigan [Mr. RIEGLE] and the Senator from Washington [Mr. EVANS] were added as cosponsors of S. 74, a bill to amend the Internal Revenue Code of 1986 to allow a charitable contribution deduction for certain amounts paid to or for the benefit of an institution of higher education.

S. 126

At the request of Mr. INOUE, the name of the Senator from Montana [Mr. MELCHER] was added as a cosponsor of S. 126, a bill to amend titles XVIII and XIX of the Social Security Act to provide that gerontological nurse practitioner or gerontological clinical nurse specialist services are covered under part B of Medicare and are mandatory benefit under Medicaid, and for other purposes.

S. 714

At the request of Mr. SPECTER, the name of the Senator from Illinois [Mr. DIXON] was added as a cosponsor of S. 714, a bill to recognize the organization known as the Montford Point Marine Association, Inc.

S. 840

At the request of Mr. THURMOND, the names of the Senator from Kansas [Mr. DOLE] and the Senator from Pennsylvania [Mr. HEINZ] were added as cosponsors of S. 840, a bill to recognize the organization known as the 82nd Airborne Division Association, Inc.

S. 849

At the request of Mr. CHAFEE, the name of the Senator from Massachusetts [Mr. KENNEDY] was added as a cosponsor of S. 849, a bill to establish guidelines for timely compensation for temporary injury incurred by seaman on fishing industry vessels and to require additional safety regulations for fishing industry vessels.

S. 884

At the request of Mr. CRANSTON, the name of the Senator from Delaware [Mr. BIDEN] was added as a cosponsor of S. 884, a bill to prohibit the burning and dumping of toxic and hazardous waste in certain areas off the coast of California, and various other purposes.

S. 924

At the request of Mr. BENTSEN, the name of the Senator from California [Mr. CRANSTON] was added as a cosponsor of S. 924, a bill to revise the allotment formula for the alcohol, drug abuse, and mental health services block grant under Part B of title XIX of the Public Health Service Act.

S. 998

At the request of Mr. DECONCINI, the name of the Senator from Oregon [Mr. HATFIELD] was added as a cosponsor of S. 998, a bill entitled the "Micro Enterprise Loans for the Poor Act."

S. 1188

At the request of Mr. SYMMS, the name of the Senator from Indiana [Mr. LUGAR] was added as a cosponsor of S. 1188, a bill to amend the Internal Revenue Code of 1986 to allow certain associations of football coaches to have a qualified pension plan which includes cash or deferred arrangement.

S. 1220

At the request of Mr. KENNEDY, the name of the Senator from Rhode Island [Mr. CHAFEE] was added as a cosponsor of S. 1220, a bill to amend the Public Health Service Act to provide for a comprehensive program of education, information, risk reduction, training, prevention, treatment, care, and research concerning acquired immunodeficiency syndrome.

S. 1366

At the request of Mr. SASSER, his name was added as a cosponsor of S. 1366, a bill to revise and extend the programs of assistance under title X of the Public Health Service Act.

S. 1451

At the request of Mr. HEINZ, the name of the Senator from New Mexico [Mr. BINGAMAN] was added as a cosponsor of S. 1451, a bill to amend title 38, United States Code, to improve veterans' benefits for former prisoners of war.

S. 1464

At the request of Mr. CRANSTON, the name of the Senator from Michigan [Mr. LEVIN] was added as a cosponsor of S. 1464, a bill to amend title 38, United States Code, to provide eligibility to certain individuals for beneficiary travel payments in connection with travel to and from Veterans's Administration facilities.

S. 1475

At the request of Mr. MELCHER, the name of the Senator from South Dakota [Mr. DASCHLE] was added as a cosponsor of S. 1475, a bill to establish an effective clinical staffing recruitment and retention program, and for other purposes.

S. 1490

At the request of Mr. SARBANES, the name of the Senator from New York [Mr. MOYNIHAN] was added as a cosponsor of S. 1490, a bill to designate certain employees of the Librarian of Congress as police, and for other purposes.

S. 1573

At the request of Mr. MCCLURE, the name of the Senator from Oregon [Mr. HATFIELD] was added as a cosponsor of S. 1573, a bill to amend section 1853 of the act of June 25, 1948.

S. 1600

At the request of Mr. FORD, the names of the Senator from California [Mr. CRANSTON], and the Senator from Illinois [Mr. SIMON] were added as cosponsors of S. 1600, a bill to enhance

the safety of air travel through a more effective Federal Aviation Administration, and for other purposes.

S. 1620

At the request of Mr. PELL, the names of the Senator from Tennessee [Mr. SASSER], the Senator from Massachusetts [Mr. KERRY], and the Senator from Nebraska [Mr. KARNES] were added as cosponsors of S. 1620, a bill to reauthorize and revise the act of September 30, 1950 (Public Law 874, Eighty-first Congress) relating to Federal impact aid, and for other purposes.

SENATE JOINT RESOLUTION 97

At the request of Mr. HATCH, the names of the Senator from Rhode Island [Mr. CHAFEE], the Senator from Idaho [Mr. MCCLURE], the Senator from Idaho [Mr. SYMMS], the Senator from Wisconsin [Mr. KASTEN], the Senator from Delaware [Mr. ROTH], the Senator from Utah [Mr. GARN], the Senator from Hawaii [Mr. INOUE], the Senator from North Dakota [Mr. BURDICK], the Senator from Mississippi [Mr. STENNIS], and the Senator from Montana [Mr. BAUCUS] were added as cosponsors of Senate Joint Resolution 97, a joint resolution to designate the week beginning November 22, 1987, as "National Adoption Week."

SENATE JOINT RESOLUTION 126

At the request of Mr. PACKWOOD, the names of the Senator from Illinois [Mr. DIXON], the Senator from Tennessee [Mr. SASSER], the Senator from New York [Mr. MOYNIHAN], and the Senator from Maine [Mr. MITCHELL] were added as cosponsors of Senate Joint Resolution 126, a joint resolution to designate March 16, 1988, as "Freedom of Information Day."

SENATE JOINT RESOLUTION 148

At the request of Mr. D'AMATO, the names of the Senator from Utah [Mr. HATCH], the Senator from Oregon [Mr. PACKWOOD], and the Senator from Pennsylvania [Mr. SPECTER] were added as cosponsors of Senate Joint Resolution 148, a joint resolution designating the week of September 20, 1987, through September 26, 1987, as "Emergency Medical Services Week."

SENATE JOINT RESOLUTION 172

At the request of Mr. BRADLEY, the names of the Senator from Minnesota [Mr. DURENBERGER], the Senator from Kentucky [Mr. FORD], and the Senator from Ohio [Mr. METZENBAUM] were added as cosponsors of Senate Joint Resolution 172, a joint resolution to designate the period commencing February 21, 1988, and ending February 27, 1988, as "National Visiting Nurse Association Week."

SENATE JOINT RESOLUTION 177

At the request of Mr. THURMOND, the names of the Senator from North Carolina [Mr. HELMS], the Senator from Georgia [Mr. NUNN], the Senator from Mississippi [Mr. STENNIS], the

Senator from Arizona [Mr. DECONCINI], the Senator from Wisconsin [Mr. KASTEN], the Senator from Wisconsin [Mr. PROXMIER], the Senator from Michigan [Mr. RIEGLE], the Senator from Pennsylvania [Mr. HEINZ], the Senator from North Carolina [Mr. SANFORD], the Senator from Mississippi [Mr. COCHRAN], the Senator from Michigan [Mr. LEVIN], and the Senator from Ohio [Mr. METZENBAUM] were added as cosponsors of Senate Joint Resolution 177, a joint resolution to authorize and request the President to designate the month of December 1987, as "Made in the U.S.A. Month."

SENATE CONCURRENT RESOLUTION 23

At the request of Mr. CRANSTON, the names of the Senator from Virginia [Mr. WARNER], and the Senator from Nevada [Mr. REID], were added as cosponsors of Senate Concurrent Resolution 23, a concurrent resolution designating jazz as an American national treasure.

AMENDMENTS SUBMITTED

DEPARTMENT OF DEFENSE AUTHORIZATION ACT, FISCAL YEARS 1988 AND 1989

JOHNSTON (AND OTHERS)
AMENDMENT NO. 710

Mr. JOHNSTON (for himself, Mr. PROXMIER, Mr. EVANS, Mr. DURENBERGER, and Mr. BURDICK) proposed an amendment to the bill (S. 1174) to authorize appropriations for fiscal years 1988 and 1989 for military activities of the Department of Defense, for military construction, and for defense activities of the Department of Energy, the prescribed personnel strengths for such fiscal years for the Armed Forces, and for other purposes; as follows:

At the appropriate place, insert the following:

Notwithstanding the provisions of Sec. 201, Sec. 231, Sec. 3111, Sec. 3113 and Sec. 3141.

(1) Not more than \$7,824,552,000 are authorized to be appropriated for fiscal year 1988 for the Defense Agencies for the use of the Armed Forces for research, development, test, and evaluation;

(2) Of the amounts appropriated pursuant to authorization or otherwise available to the Department of Defense for research, development, test, and evaluation for fiscal year 1988, not more than \$3,238,100,000 may be obligated for the Strategic Defense Initiative for such fiscal year;

(3) Not more than \$3,653,800,000 are authorized to be appropriated to the Department of Energy for fiscal year 1988 for operating expenses incurred in carrying out weapons activities;

(4) The total amount authorized to be appropriated to the Department of Energy in Division C for fiscal year 1988 for national security programs is \$7,763,900,000; and

(5) Not more than \$319,500,000 shall be available to the Department of Energy for research, development, test, and evaluation, and other purposes, in connection with the Strategic Defense Initiative Program.

KERRY (AND OTHERS) AMENDMENT NO. 711

Mr. KERRY (for himself, Mr. CHAFEE, Mr. SIMON, Mr. HATFIELD, Mr. PELL, Mr. LEAHY, Mr. PROXMIRE, Mr. JOHNSTON, Mr. SARBANES, Mr. WIRTH, Mr. MATSUNAGA, Mr. KENNEDY, Mr. CRANSTON, Mr. RIEGLE, Mr. BUMPERS, Mr. DODD, Mr. GORE, Mr. HARKIN, Mr. BINGAMAN, Mr. BURDICK, Mr. METZENBAUM, Mr. MITCHELL, Mr. STAFFORD, Mr. DASCHLE, Mr. SANFORD, Ms. MIKULSKI, and Mr. MOYNIHAN) proposed an amendment to the bill S. 1174, supra; as follows:

At the appropriate place in the bill, add the following new section:

SEC. . LIMITATION ON TESTING OF ANTI-SATELLITE WEAPONS

(a) Funds appropriated to or otherwise available to the Department of Defense may not be obligated or expended to carry out, on or after the date of the enactment of this Act, a test of the Space Defense System (anti-satellite weapon) against an object in space until the President certifies to Congress that the Soviet Union has conducted, after the date of the enactment of this Act, a test against an object in space of a dedicated anti-satellite weapon.

(b) Expiration. The prohibition in subsection (a) expires on October 1, 1988.

WEICKER (AND HATFIELD) AMENDMENT NO. 712

Mr. WEICKER (for himself and Mr. HATFIELD) proposed an amendment to the bill S. 1174, supra; as follows:

On page 114, between lines 13 and 14, insert the following new section:

SEC. . MEETING THE REQUIREMENTS OF THE WAR POWERS RESOLUTION

(a) FINDINGS.—The Congress finds that—

(1) section 4(a)(1) of the War Powers Resolution requires the submission, within 48 hours, of a report by the President to the Congress whenever, in the absence of a declaration of war, United States Armed Forces are introduced "into hostilities or into situations where imminent involvement in hostilities is clearly indicated by the circumstances"; and

(2) on September 21, 1987, United States Armed Forces attacked an Iranian vessel which was laying hostile mines in the Persian Gulf.

(b) POLICY.—(1) Therefore, the Congress declares that the report described in section 4(a)(1) of the War Powers Resolution is required to be submitted to the Congress by the President pursuant to such section not later than 48 hours after the attack referred to in subsection (a)(2) of this section.

NOTICES OF HEARINGS

SMALL BUSINESS COMMITTEE

Mr. BUMPERS. Mr. President, I would like to announce that the Small Business Committee's oversight hearing on the Small Business Administration's Small Business Development Center Program, scheduled for Tues-

day, September 22, 1987, has been rescheduled for Thursday, October 15, 1987. The hearing will be held in room 428A of the Russell Senate Office Building and will commence at 10 a.m. For further information, please call Patty Barker of the committee staff at 224-8495.

SMALL BUSINESS COMMITTEE

Mr. BUMPERS. Mr. President, I would like to announce that the Small Business Committee will hold a full committee markup on Tuesday, September 29, 1987, at 10 a.m. on S. 437, a bill to amend the Small Business Investment Act of 1958 to permit prepayment of loans made to State and local development companies. The markup will be held in room 428A of the Russell Senate Office Building. For further information please call John Ball, staff director of the committee at 224-5175.

GOVERNMENT AFFAIRS SUBCOMMITTEE ON FEDERAL SPENDING, BUDGET, AND ACCOUNTING

Mr. CHILES. Mr. President, the Government Affairs Subcommittee on Federal Spending, Budget, and Accounting will hold hearings on the accounting and management procedures used by the Federal Government involving seized property as a result of criminal activities. The subcommittee held hearings in March on the disposition of seized cash. We hope to hear from the agencies regarding remedial steps they have taken regarding the problems identified by the GAO in March hearings.

The hearings will be held in room 342 of the Senate Dirksen Building and will begin after 9:30 a.m. on Friday, September 25, 1987. Witnesses will include representatives from the General Accounting Office, the Department of Justice, the Customs Service, and Mr. Richard Brennan of the law firm of Layne, Brenner & Dienstag. Any persons wishing to submit written testimony should contact Bob Harris of my staff at (202) 224-9000.

SUBCOMMITTEE ON OVERSIGHT OF GOVERNMENT MANAGEMENT

Mr. LEVIN. Mr. President, I wish to announce that the Subcommittee on Oversight of Government Management, Committee on Governmental Affairs, will continue hearings on oversight of Federal procurement decisions on Wedtech, on Tuesday and Wednesday, September 29 and 30, in room 342 of the Dirksen Senate Office Building, at 9:30 a.m. both days.

SELECT COMMITTEE ON INDIAN AFFAIRS

Mr. INOUE. Mr. President, I would like to announce that the Select Committee on Indian Affairs will be holding the following hearing on: September 29, 1987, beginning at 9 a.m., in Senate Russell 485, a hearing on S. 1645, amendments to the Indian Education Act.

Those wishing additional information should contact the committee at 224-2251.

SUBCOMMITTEE ON PUBLIC LANDS, NATIONAL PARKS, AND FORESTS

Mr. BUMPERS. Mr. President, I would like to announce for the public that a hearing has been scheduled before the Subcommittee on Public Lands, National Parks, and Forests.

The hearing will take place October 6, 1987, 2 p.m. in room SD-366 of the Dirksen Senate Office Building in Washington, DC.

The purpose of the hearing is to receive testimony on the following measures currently pending before the subcommittee—

H.R. 1044, a bill to establish the National Maritime Museum at San Francisco in the State of California, and for other purposes;

S. 963, a bill to amend the boundaries of Stones River National Battlefield, TN, and for other purposes;

S. 761, a bill to provide for the establishment of a western historic trails center in the State of Iowa, and for other purposes; and

S. 1165, a bill to authorize the Secretary of the Interior to provide for the development and operation of a visitor and environmental education center in the Pinelands National Reserve, in the State of New Jersey.

Those wishing information about testifying at the hearing or submitting written statements should write to the Subcommittee on Public Lands, National Parks and Forests, U.S. Senate, room SD-364, Dirksen Senate Office Building, Washington, DC 20510. For further information, please contact Tom Williams at 224-7145 or Beth Norcross at 224-7933.

AUTHORITY FOR COMMITTEES TO MEET

COMMITTEE ON VETERANS' AFFAIRS

Mr. BYRD. Mr. President, I ask unanimous consent that the Committee on Veterans' Affairs be authorized to hold a hearing on Tuesday, September 22, to hear the 1988 legislative priorities of the American Legion.

The PRESIDING OFFICER. Without objection, it is so ordered.

SELECT COMMITTEE ON INTELLIGENCE

Mr. BYRD. Mr. President, I ask unanimous consent that the Select Committee on Intelligence be authorized to meet during the session of the Senate on Tuesday, September 22, 1987, at 2 p.m. to hold a hearing on intelligence matters.

The PRESIDING OFFICER. Without objection, it is so ordered.

COMMITTEE ON ARMED SERVICES

Mr. BYRD. Mr. President, I ask unanimous consent that the Committee on Armed Services be authorized to meet during the session of the Senate on Tuesday, September 22,

1987, in open session to receive testimony on the effectiveness of legislation enacted last year establishing the position of the Under Secretary of Defense for Acquisition.

The PRESIDING OFFICER. Without objection, it is so ordered.

COMMITTEE ON FOREIGN RELATIONS

Mr. BYRD. Mr. President, I ask unanimous consent that the Committee on Foreign Relations be authorized to meet during the session of the Senate on Tuesday, September 22, 1987, to hold a hearing on a pending Presidential nomination.

The PRESIDING OFFICER. Without objection, it is so ordered.

COMMITTEE ON THE JUDICIARY

Mr. BYRD. Mr. President, I ask unanimous consent that the Committee on the Judiciary be authorized to hold a hearing during the session of the Senate on September 22, 1987, on the nomination of Robert H. Bork to be Associate Supreme Court Justice.

The PRESIDING OFFICER. Without objection, it is so ordered.

ADDITIONAL STATEMENTS

UNITED STATES-SOVIET INF AGREEMENT

● Mr. WIRTH. Mr. President, Friday President Reagan announced that the United States and the Soviet Union had reached agreement in principle to ban medium- and short-range nuclear missiles. He also announced that our negotiators have reached an accord to begin a new round of talks on nuclear weapons testing, that the Soviets indicated a willingness to discuss new limits on strategic missiles, and suggested new approaches to limits on weapons in space—an area that has been most contentious for some time with our Nation's negotiators in Geneva.

Mr. President, this is good news, indeed. I congratulate the President and all U.S. officials who have had a role in negotiating the INF and short-range missile agreement—as well as Secretary Gorbachev and the Soviet negotiators, because it takes agreements and concessions on both sides to achieve such accords. But as much as I welcome this news and applaud those who brought it to us, and as strongly as I feel about arms control, I must say that this is not the millenium. Our work has just begun.

While this is only the first step in a much longer process, and the ability of the U.S.S.R. to obliterate the United States and vice versa will only be dented by this agreement, by no means do I mean to minimize the significance of this accomplishment. Everything must start somewhere, and eliminating the spectre of mutual nuclear suicide begins here, and I am re-

lieved this step now appears likely to be taken.

Once before in this century, Mr. President, superpowers agreed to scrap significant numbers of a specific class of weapons. I am speaking of the Washington conference of 1921 that led to the naval holiday in battleship construction. But that agreement was not followed by a general cessation, and, as an unintended consequence, the world witnessed the rapid development of new technology and tactics to fill the void. Naval architects were freed to work on cruisers, submarines and aircraft carriers and theorists kept apace developing the strategy and tactics for their use. The end result was an increase in the world's arsenal and new ways to use it. Are we at the same point today with INF, Mr. President? I hope not.

What remains in front of us, of course, even after the ink has dried on the signatures on this treaty, is the necessity to address the whole panoply of strategic offensive and defensive weapons, tactical nuclear weapons, and conventional forces. The world will remain a very dangerous place until we reach agreements on these fronts; but the achievement of the INF and short-range agreement proves that agreements can be reached with the Soviets that protect our security while reducing the threat of nuclear annihilation. We can and must build on this first success in these other areas.

I am encouraged, further, by the announcement that Secretary Shultz and Foreign Minister Shevardnadze discussed a broad range of issues to be taken up by our negotiators in 1987-88, including nuclear testing, strategic arms reduction, chemical weapons, mutual and balanced force reductions, and security and confidence-building measures. As I noted previously, there is much left to do.

Mr. President, let me reiterate how encouraged and pleased I am by Friday's news. We appear to have reached an historic point on the road to eliminating weapons of mass destruction while assuring security for our Nation, its people, and its democratic form of government. I look forward to the summit and the final treaty. As will all of my colleagues, I will study the treaty with care. There are risks involved in any arms agreement. We must be prepared to take reasonable risks to reach our goals, but we must be prudent.●

NEED TO REINSTATE A CAPITAL GAINS EXCLUSION

● Mr. BOSCHWITZ. Mr. President, for months now I have been speaking on the Senate floor and elsewhere about the need to reinstate a preferential tax rate for capital gains.

At this time, I would like to put into the RECORD an article by Warren Brookes which appeared in the Washington Times. Mr. Brookes gives an excellent discussion of two of the many reasons why we need to reinstate a differential tax rate for capital gains—competitiveness and revenues.

As Mr. Brookes points out, the United States is fast becoming one of the few countries that imposes a tax when someone invests capital and makes a profit on that investment. Take a look at the chart in Mr. Brookes' article. Virtually all of our competitors are now exempting capital gains from tax, either directly or indirectly through an annual tax allowance. We are now competing in a global economy where capital is highly mobile. We need to create incentives, not disincentives, to attract funds into this country.

Mr. Brookes' article also points out the fallacy that increasing the tax rate on capital gains will increase revenues to the Treasury. As I have pointed out on previous occasions, history shows that increasing the tax rate on capital gains results in a loss of revenue to the Treasury. Lowering the tax rate on capital gains has consistently resulted in an increase in tax collections for the Treasury. That is not surprising, since capital gains is a voluntary transaction. When rates are lowered, there is less of an incentive to hold assets. Instead, assets turn over more quickly and capital is put to more productive uses.

Again, I urge my colleagues to join me in reinstating a preferential tax rate for capital gains. I have introduced legislation—S. 444—which would provide a 40-percent exclusion for assets held 1 year and a 60-percent exclusion for assets held 3 years or more. That will bring the rate on capital gains back down to where it was prior to the Tax Reform Act of 1986. Our rates will still be high compared to our competitors, but it will be a good first step to increase competitiveness and to prevent a loss of revenues to the Treasury.

The article follows:

[From the Washington Times, Aug. 20, 1987]

COMPETITION FOR CAPITAL—WILL TAX BLEMISH HANDICAP US?

(By Warren Brookes)

Congressional Democrats are trying to do what appears to be impossible: Make America more competitive, while raising taxes a proposed \$64.3 billion over the next three years.

Small wonder they need a protectionist wall to enable them to return to their old friends: high-tax rates and organized labor.

There's a problem, however: "capital." In the deregulated and integrated world markets, money moves easily from bad investments to good, from poor investment climates to good ones. The market is making politicians irrelevant.

And therein lies a fascinating irony as well as a real opportunity.

The one major negative aspect of the 1986 tax reform—eliminating the 60 percent exemption on capital-gains income—pushed U.S. long-term capital gains rates to very nearly the highest in the Free World. (See table.)

While the U.S. Maximum rate on long-term gains rose from 20 to 28 percent, West Germany, Japan, Belgium, Italy, and Holland all now exempt long-term capital gains from any taxation. Canada's top rate is 17.51 percent. And this is applied only after the first \$100,000 per year in capital gains realized, and there is no requirement for holding the capital.

Socialist France's rate is only 16 percent with no holding period, and France exempts the first \$44,336 each year from any tax at all. Even Britain, whose top long-term rate is 30 percent, exempts the first \$10,679, while Sweden's long-term rate is 18 percent.

This means, as a study by Arthur Andersen shows, America now has the most anti-capital tax system in the Free World. And as The Economist pointed out recently, "At a time when most of the capitalist world is moving toward cutting capital-gains taxes in an effort to promote equity investment, America is moving in the opposite direction. For how long?"

Not long, if the Democrats wake up to a real opportunity the Republicans on the House Ways and Means Committee are offering them: Raise \$32 billion in new tax revenues over the next three years—or about half the total the Democrats want—by lowering the capital-gains tax rate to the 15 percent rate.

They argue that experience shows that lower rates will actually yield higher revenues—and the higher rates that took effect this year are actually going to cost the Treasury.

In 1969, for example, the capital-gains tax rate was raised from 35 percent to 49, and within two years revenues from this tax had fallen more than 40 percent. This caused Congress in 1978 to lower the top rate to 28 percent. Immediately revenues from this tax jumped 44 percent in one year, from \$8.1 billion to almost \$11.7 billion. The same thing happened in 1982 when the top rate was cut from 28 percent to 20.

A recent study by Harvard economist Lawrence Lindsay shows that, based on these experiences, the "ideal" or "revenue maximizing" rate for capital gains is 18 percent—and such a rate would raise capital-gains revenues as much as 72 percent over the new tax-reform's 28 percent rate.

Indeed, he estimates that as a result of raising the capital-gains rate from 20 percent to 28 in last year's tax reform, the government will actually lose between \$11 billion and \$42 billion in the next two years alone, and between \$27 and \$105 billion over the next five years.

The reason is obvious: The lower rate encourages capital gains to be realized and declared. The higher rate encourages capital to be held rather than mobilized.

In fact, that's exactly what has happened: 1987 tax revenues shot up more than \$20 billion over estimates because so many taxpayers took their capital gains last year (filed this year) to avoid higher rates in 1987.

That experience was confounded, however, by the shocking July 7 testimony by Treasury's tax legislative counsel Dennis Ross. Mr. Ross opposed the Republicans' proposal to cut the rate to 15 percent, be-

cause "it will cause the Treasury to lose revenues."

When this amazing assertion was picked up in The Wall Street Journal on July 8, an embarrassed Mr. Ross was forced by his boss to write a "clarification" to the Ways and Means Committee, admitting that "a body of research exists that indicates that a substantial reduction in the maximum capital-gains rate could result in increased revenues in time."

Mr. Ross reminded the committee (and himself): "The administration supported a reduction in the capital-gains rate to 17.5 percent as an important feature of . . . the president's tax-reform proposals," which had argued that the lower rate would actually yield \$19 billion higher revenues over five years.

The Republicans have offered the Democrats an opportunity to make America more competitive and to increase revenues at the same time.

They should grab it.

OUR ANTICAPITAL TAX RATES—CAPITAL GAINS MAXIMUM RATES

	Maximum short-term rate (percent)	Maximum long-term rate (percent)	Time period (months)	Annual tax-free allowances
United States	38.5	28.0	6	None
West Germany	56.0	0	6	\$543
Japan	0	0		
Canada	17.5	17.5		100,000
France	16.0	16.0		44,336
Britain	30.0	30.0		10,679
Italy	0	0		
Holland	0	0		
Belgium	0	0		

Source: Arthur Andersen.

INFORMED CONSENT: MICHIGAN

● Mr. HUMPHREY. Mr. President, today I would like to insert into the CONGRESSIONAL RECORD two letters from the State of Michigan in support of my informed consent legislation. Both women feel they were denied factual information about alternatives to abortion, the physical and emotional ramifications of abortion. I urge my colleagues to support S. 272 and S. 273 so that future women will not be subjected to needless pain and suffering because of a lack of information.

I ask that the letters from the State of Michigan be printed in the RECORD.

The letters follow:

AUGUST 6, 1986.

DEAR SENATOR HUMPHREY: I have had an abortion in November of 1978 and I feel that if I would have only had proper counseling before my abortion I wouldn't have to go through the post abortion trauma now. The only counseling I received was when the assistant brought me into the room and told me how the procedure is done on a model. I only wish I knew the facts because to later find out what I really did to my baby really hurts. If I would have only received proper counseling and been told the truth about the baby and what really happens I know that my baby would be here now. I wouldn't have to deal with the fact of killing my baby. I feel that they could have told me about adoption and true facts because if they did I wouldn't have to suffer now. I guess they wouldn't because they would lose a lot of money on me.

Please, please try to get this Senate Bill 272 in effect because each day many other girls aren't getting proper counseling and they too will have to deal with the fact they are committing murder also. I feel sorry for the girl when she finds out what she did: it will be devastating.

Thank You and God Bless You,
PAMELA HULSING,
Michigan.

JULY 8, 1986.

DEAR SENATOR HUMPHREY: I am writing you today regarding Senate Bill 272 in support of informed consent for women considering abortion. My support stems largely from personal experience.

When I was 18 years old I became pregnant. That pregnancy put my life in crisis; I was scared and with my boyfriend (now husband) decided to end my 12-week pregnancy through abortion. Years later we learned that my "12-week pregnancy" was an anatomically complete fetus.

One of my first reactions to this knowledge was the rage I felt toward everyone involved. I felt betrayed, having had an unfamiliar doctor perform surgery on my body to scrape the living fetus from my womb. I look back and wonder at the haze of illusion I was in to have done this.

The "counseling" I had at the clinic was an interaction that lasted less than five minutes. I had kept my pregnancy secret, too ashamed to ask anyone I know for help, and had done no problem solving prior to my decision to abort. When I told her I was sure I wanted the abortion (though truly I was still quite ambivalent) she seemed satisfied. She then gave me a brief description of the abortion procedure then directed me back to the lobby until my name was called for surgery.

The emotional and psychological repercussions of the abortion have been painful and required counseling, spiritual healing (and medical treatment for complications with scar tissue) for myself and my husband. Seven years later, we still grieve the loss of our first child. The abortion was an extreme and panicked response to an unplanned pregnancy and it is a difficult memory that will never totally be relieved.

Though I take personal responsibility for having kept myself ignorant, still, the facts of and alternatives to abortion were not readily available. It is a legitimate and necessary requirement that such information be presented to persons with an unplanned pregnancy so that a woman's decision can truly be a choice and not merely a reaction.

Thank you for your efforts on this bill.

Sincerely,

ANONYMOUS,
Michigan.

WITHOUT MANUFACTURING, SERVICES CANNOT SURVIVE

● Mr. HEINZ. Mr. President, in recent years, politicians and economists have been loudly touting the advent of a postindustrial, service-dominated economy in the United States, claiming that the development of services instead of manufacturing shows that our economy is becoming more advanced and healthy. In a recent article in "Technology Review" entitled "The Myth of a Postindustrial Economy," this view is soundly renounced.

The authors of this article take the position that services are, to a great extent, intricately linked to manufacturing. They dispel the traditional economic view that these linkages are not important, and argue instead that they are, in fact, very real and important. Without strong manufacturing, a strong service industry cannot thrive.

In pursuing this topic, the authors address another popular argument, namely that the United States can export its technological, financial, and engineering knowledge instead of manufacturing products and still thrive. Unfortunately, the article argues, this will not work permanently, since other countries are rapidly learning from, and surpassing, the United States in all of the above-mentioned categories.

Mr. President, this is an important article because it puts to rest some of the myths that are growing up about the American economy in the closing years of this century. It clearly describes the glib surrender of manufacturing as a basic part of our economy by administration officials and economists. A shoring up of manufacturing is not only one of many weapons which we must employ to effectively combat our severe trade deficit ills, but it is also a critical element of our national security and our survival as a nation.

Mr. President, I ask that this article be printed in the RECORD.

The article follows:

[From Technology Review Magazine, February-March 1987]

THE MYTH OF A POSTINDUSTRIAL ECONOMY (By Stephen S. Cohen and John Zysman)

Manufacturing matters mightily to the wealth and power of the United States and to our ability to sustain the open society we have come to take for granted. But this contention is a distinctly minority view in the United States today. In part this is due to the power of a central tenet of American economic thought: government policy should be indifferent to what makes up the gross national product.

This conventional view is supported by numerous authors in books, journal articles, op-ed pieces, and expert testimony. They point to the relentless decline in manufacturing employment—from 50 percent of all jobs in 1950 to 20 percent now—and the increase in service jobs, which now constitute about 70 percent of all employment. These figures underwrite the mainstream view that economic development is a never-ending shift from activities of the past up into newer, more farming to industry. Now we are shifting from industry to services and high technology.

The lesson for government is clear: keep hands off. For example, in his latest Report to the Congress on Trade Agreements, President Reagan sets out the following framework for understanding a troubling trade imbalance. "The move from an industrial society toward a 'postindustrial' service economy has been one of the greatest changes to affect the developed world since the Industrial Revolution. The progression of an economy such as America's from agriculture to manufacturing to services is a natural change."

The New York Stock Exchange, in a recent report on trade, industrial change, and jobs, put it more pointedly: "A strong manufacturing sector is not a requisite for a prosperous economy."

Or, in the words of a *Forbes* editorial, "Instead of ringing in the decline of our economic power, a service-driven economy signals the most advanced stage of economic development. . . . Instead of following the Pied Piper of 'reindustrialization,' the U.S. should be concentrating its efforts on strengthening its services."

In this view, America's loss of market share and employment in industries such as textiles, steel, apparel, autos, consumer electronics, machine tools, random-access memories, computer peripherals, and circuit boards is neither surprising nor bad. It is not a sign of failure but part of the price of success. The United States should be shedding sunset industries and moving on to services and high tech, the sunrise sectors. Such a change is part of an ever-evolving international division of labor from which everyone benefits.

This view is soothing in its message, calm in tone, confident in style, and readily buttressed by traditional economic theory. We believe it is also quite possibly wrong. At the heart of our argument is a notion we call "direct linkage": many service jobs are tightly tied to manufacturing. Lose manufacturing and you will lose—not develop—those high-wage services. Nor is the relationship between high tech and manufacturing, like that between services and manufacturing, a simple case of evolutionary succession. High tech is intimately tied to manufacturing, not a free-floating laboratory activity.

Our argument takes issue—fundamentally—with the widely articulated view that a service-based, "post-industrial" economy is the natural successor to an industry-based economy, the next step up a short but steep staircase consisting of "stages of development." Because the traditional view justifies economic policies that risk the wealth and power of the United States, it is, for all its conventionality, a terribly radical guide for policy. If the United States wants to stay on top—or even high up—we can't just shift out of manufacturing and into services.

Nor can we establish a long-term preserve around traditional blue-collar jobs and outmoded plants. If the United States is to remain a wealthy and powerful economy, American manufacturing must automate, not emigrate. Moreover, it must automate in ways that build flexibility through the imaginative use of skilled labor. In a world in which technology migrates rapidly and financial services are global, the skills of our workforce and the talents of our managers together will be our central resource.

LINKAGES AND WEALTH

Most celebrations of the shift from industry to services construct a parallel to the shift from agriculture to industry. According to that argument, the shift from low-productivity, low-paid farm labor to higher-productivity, hence higher-paid employment in industry is precisely what economic development is about. The same developmental movement, the same "creative destruction," is now being repeated in the shift out of industry and into services and high tech.

This view of economic history, although familiar and reassuring, is misleading. It confuses two separate transitions: a shift out of agricultural production and a shift of labor out of agriculture.

The first shift never occurred. U.S. agricultural production did not go offshore or shrivel up. To the embarrassment of those who view the cultivation of large quantities of soybeans, tomatoes, and corn as incompatible with a high-tech future, agriculture has sustained the highest long-term productivity of any sector of the economy. We automated agriculture; we did not send it offshore or shift out of it. As a result we developed massive quantities of high-value-added, high-paid jobs in related industries and services such as agricultural machinery and chemicals. These industries and services owe their development, scale, and survival to a broad and strong American agricultural sector.

Even the employment shift from agriculture merits a second look. The generally accepted figure for U.S. agricultural employment is about 3 million, or 3 percent of the workforce. But this figure arbitrarily excludes many categories of employment. Are crop dusters and large-animal veterinarians employed in agriculture? The 3 million figure is blind to such important economic realities. If we ask what would have happened to employment (and wealth) if the United States had shifted out of agriculture instead of moving labor off the farm, we encounter the notion to linkage: the relationship of agricultural production to employment in tractor repair, ketchup making, and grape crushing.

The more advanced a production process, the longer and more complicated the linkages. Primitive farmers scratch the ground with sticks. They need very little from outside. Their productivity is also very low. Modern farmers head a long, elaborate chain of specialists, most of whom don't often set foot on the farm, yet all of whom are vital to its successful operation and directly depend on it.

Such linkage is not a new notion. But conventional economics does not like linkages to be used as evidence of some special economic importance for particular sectors. Linkage has no place in a discussion of a subject like why manufacturing matters, critics say. Their objection is not that linkages are dubious or rare, or impossible to demonstrate. Rather, it is that they are ubiquitous. In economics, everything is linked to everything else.

The linkages admitted in traditional economics are all of the same special kind: they are loose couplings. Each is a simple market relationship between a buyer and a seller, and each involves a traded good. The United States can, in principle at least, make cars or textiles with imported machines. We do it every day, though at a steadily shrinking volume. These are the loosest linkages imaginable.

There are, however, tighter linkages, such as those between agricultural production and the food-processing industry, which employs about 1.7 million Americans. Here the linkages are tight and concrete. Move the tomato farm offshore and you close the ketchup plant or move it offshore also. It is technically possible but economically difficult to mill sugar cane in a country far from the sugar fields, or to process tomatoes far from the tomato patch, or to dry grapes into raisins far from the vineyard. An economy like ours is based on an enormous number of such tight bonds. It is not simply a system of loose linkages like those that dominate the models from which conventional economics produces its conventional prescriptions.

It is extremely implausible that the United States would sustain a major agricultural-chemicals industry if it were not the world's largest and most advanced market for those products. It is not likely that we would have developed the world's largest agricultural-machinery industry in the absence of the world's largest agricultural sector. Were the wheat fields to vanish from the United States, the machinery makers would shrink and so would their suppliers of parts, computers, trucking, and janitorial services.

The Department of Agriculture provides estimates of agriculture-dependent employment, but they outrageously overstate the case by tracing the food and fiber chain up through textile mills and food stores. Their 1982 estimate was 28.4 million jobs dependent on agriculture. Using rather conservative assumptions, we found that 3 to 6 million jobs—in addition to the 3 million traditionally classified as agricultural—can be considered part of this sector.

MANUFACTURING LINKAGES

If we turn from agriculture to industry—where direct employment is 21 million jobs—we find that even a remotely similar "linkage rate" would radically alter the place of manufacturing in the U.S. economy. The employment of another 40, 50, or even 60 million Americans, half to three-quarters of whom are counted as service workers, depends, directly upon manufacturing production. If manufacturing goes, those service jobs will go with it.

If we lose control and mastery of manufacturing production, the problem is not simply that we will be unable to replace the jobs lost with service jobs, or simply that those service jobs will pay less, or that the scale and speed of adjustment will shock the society—and polity—in potentially dangerous ways. It is that the high-paying service jobs that are directly linked to manufacturing will after a few short rounds of industrial innovation, whither away, only to sprout up offshore.

Many service jobs that follow manufacturing, such as wholesaling, retailing, and advertising, would not be directly affected if manufacturing were ceded to offshore producers. The same sales effort is involved in selling a Toyota as in selling a Buick.

The services that are directly linked to manufacturing are concentrated in that relatively narrow band of services that precedes it. Examples of such activities include design and engineering services; payroll, inventory, and accounting services finance and insurance; repair and maintenance of plant and machinery; training and recruitment; testing services and labs; industrial waste disposal; and the accountants, designers, publicists, payroll, transportation, and communication firms who work for the engineering firms that design and service production equipment.

Two questions pose themselves. The first concerns the nature of the linkages. How can we go about determining how many jobs would vanish from the U.S. economy if manufacturing were lost? The second involves scale: do services to manufacturing constitute a scale of employment sufficient to justify a new set of concerns, a rethinking of theory, and a recasting of policy?

The President's Report on the Trade Agreements Program provides an approximate answer for the second question: "25 percent of U.S. GNP originates in services used as inputs by goods-producing industries—more than the value added to GNP by the manufacturing sector."

But charting how much of this service employment is tightly linked to manufacturing is difficult. It should be right at the top of the economics research agenda, so that it can get to the top of the policy debate. Unless it can be shown that the overwhelming bulk of those services are weakly linked to manufacturing, we must quickly reformulate the terms of that policy debate.

Some of those services that proceed are so tightly linked to manufacturing that they are best understood as direct extensions of it. These would include truckers who specialize in shipping raw materials, components, and semi-finished goods. The U.S. textile industry, for example, is a major employer of trucking services. The category of services tightly linked to manufacturing is real, and it is peopled. But unfortunately we do not yet know how big it is.

IS EXPORTING SERVICES AN ANSWER?

If, indeed, many services are tied to manufacturing, can the United States significantly offset its trade deficit in merchandise by running a surplus in trade of services? Recent experience provides no reason for assuming—wishing is a better word—that the United States is better at exporting services than it is at exporting manufactured goods. The total volume of service trade is an order of magnitude less than trade in goods. Consequently, only a sudden multiplication of service exports could compensate for the present deterioration in traded goods.

There are a number of problems with counting on an expansion in American service exports. First, almost all the current trade surplus in services stems from interest on old loans abroad. These loans are not very bankable since Third World nations threaten to default. Indeed, our obligations to foreign countries now exceed theirs to us. The United States is a debtor nation.

Second, as with domestic services, large segments of trade in international services are directly tied to a strong a technologically advanced manufacturing sector.

Consider U.S. exports of engineering services. These top-of-the-line services are knowledge-intensive and employ highly paid professionals who in turn purchase significant amounts of other services, including telecommunications, data processing, computer programming, and legal advice. Competitive advantage in engineering services depends upon mastery and control of the latest production technology by U.S. producers. Not very long ago we exported such services in the steel industry. Then U.S. steel producers fell behind in the design and operation of production technologies and facilities. When leadership in production changed hands, the flow of services for this industry also reversed. Now we import those services from our former customers in Europe and Japan, and might soon obtain them from Korea and Brazil.

Third, it is not only engineering services that go through this development cycle. Financial services—a sector in which the United States is said to have a strong competitive advantage—are often cited as an area where export earnings could offset deficits in the merchandise account in a big way. Financial services are high in knowledge and technology, and are supposedly located within the most advanced economy: ours.

But the situation in banking services may be less rosy than we like to think. There is no compelling reason to assume a special advantage for U.S. banks compared with their competitors. Foreign banks are bigger, and

they are growing faster than U.S. banks. A recent listing of the world's largest banks included 23 Japanese banks, 44 European banks, and only 18 U.S. banks.

U.S. banks are not even particularly succeeding in holding on to their home market. For example, foreign banks are doing as well in California as foreign auto producers. Six of the ten largest banks in California are now foreign owned, up from two of ten five years ago. Foreign banks now account for about 40 percent of the big commercial loans—the high end of the business—made in New York and San Francisco. Service trade is not an alternative to trade in goods.

THE HIGH-TECH LINK

Some analysts, such as Robert Z. Lawrence of the Brookings Institution, take comfort in the fact that high-technology exports have grown in importance for the United States. They see that as a sign of a healthy, normal development process. But the supposed U.S. advantage in high-technology goods is also deeply misleading. It suggests less a distinctive international advantage than a deep incapacity to compete with our industrial partners even in more traditional sectors. A failure by American firms to remain competitive in manufacturing processes seems to underlie this weakness. Moreover, the U.S. position in high-technology trade is quite narrow and fragile.

In the early eighties the range of high-technology sectors from which a surplus was generated was actually quite narrow; aircraft, computers, and agricultural chemicals. The overall high-tech surplus disappeared by 1983, and in 1984 and 1985 high technology, too, ran a growing deficit. Moreover, a substantial portion of U.S. high-tech exports are military goods, which indicates more about the character of America's strategic ties than about its industrial competitiveness. At a minimum, military sales reflect such factors as foreign policy far more than simple commercial calculus.

Like the service industries, much of high tech is tightly linked to traditional manufacturing. Most high-tech products are producer goods, not consumer items, despite the popularity of home computers and burglar alarms. They are bought to be used in the products of other industries (such as microprocessors in cars) or in production processes (such as robots, computers, and lasers). If American producers of autos, machine tools, telephones, and trousers don't buy American-made silicon chips, who will?

A second tie to manufacturing is even tighter. If high tech is to sustain a scale of activity sufficient to matter, America must control the production of those high-tech products it invents and designs—and it must do so in a direct and hands-on way. Unless R&D is closely tied to manufacturing—and to the innovation required to maintain competitiveness—it will lose its cutting edge. For example, by abandoning the production of televisions, the U.S. electronics industry quickly lost the know-how to design, develop, refine, and competitively produce the VCR, the next generation of that product.

DEFENSE: A FOOTNOTE

Until now, we have treated military needs in parenthesis, as they are treated in conventional economics. However, it is easy to make exceptions for something as big as the U.S. military effort. Exceptions of that scale are never without consequences for the rest of the system.

A strong domestic manufacturing capability greatly reduces the costs of our defense effort. Diverse and leading-edge production

of technologies such as semiconductors, computers, telecommunications, and machine tools makes the costs of advanced weaponry much lower than if we had to create an industrial structure exclusively for military use.

If U.S. commercial semiconductor manufacturers, say, fall behind foreign competitors, the military might not even be able to produce the components for its own use. Domestic capability in critical links in the production chain—for example, mask-making, clean rooms, and design and production tools for semiconductors—could quickly disappear.

Such an erosion of our ability to produce critical technologies would massively reduce our strategic independence and diplomatic options. Whatever the ups and downs of military spending and the changes in defense strategies, our basic security is built on the assumption that the United States will maintain a permanent lead in a broad range of advanced industrial technologies. Loss of leading-edge capacity in chip making would quickly translate into a loss of diplomatic and strategic bargaining chips.

This argument suggests that commercial development often drives military capability. It is the reverse of the common notion that military needs drive commercial development. If the United States had to support the full weight of a vast arsenal economy, we would become vis a vis Japan not so different from the arsenal Soviet economy vis a vis that of the United States.

MANUFACTURING AND WEALTH

Sometimes new notions capture the public fancy, resonate to some element of our experience, and color the way we see the world. The concept of a "post-industrial" society is such a notion. But it also obscures the precise nature of changes in the U.S. economy and what they mean.

Things have changed: production workers go home cleaner; more and more workers leave offices rather than assembly lines. And the organization of society has changed along with the technologies of product and production.

But the relationship of changes in technology and society to changes in the fundamentals of economics—the process of creating wealth—is less clear. There is not yet, nor is there likely to be in the near future, a post-industrial economy. The division of labor has become infinitely more elaborate and the production process far less direct—involving ever more specialized services as well as goods and materials located far from the traditional scene of production. However, the key generator of wealth for this vastly expanded division of labor remains production. The United States is shifting not out of industrial into services but from one kind of industrial economy to another.

Insisting that a shift to services or high technology is "natural" is irresponsible analysis and perverse policy. The competitiveness of the U.S. economy—the ability to maintain high and rising wages—is not likely to be enhanced by abandoning production to others. Instead of ceding production, public policy should actively aim to convert low-productivity, low-wage, low-skill production processes into high-technology, high-skill, high-wage activities—whether they are included in the manufacturing unit itself or counted largely as service firms.

America's declining competitiveness is troubling precisely because emerging fundamental changes in production technologies and the extent and forms of international competition are likely to prove enduring.

The international hierarchy of wealth and power is being reshuffled, and it is happening fast and now.●

COMPUTER EDUCATION ASSISTANCE ACT OF 1987—S. 838

● Mr. BIDEN. Mr. President, I am pleased to join my colleagues in cosponsoring The Computer Education Assistance Act of 1987.

Computers are the pen and pencil of the information age. Some predict that by the year 2000, 80 percent of American jobs will require familiarity with computers. As a society, we are responsible for preparing today's children for tomorrow's jobs. Senator LAUTENBERG's bill is an important step forward in helping America fulfill its responsibilities to its children.

Nearly every elementary and secondary school in this country has at least one computer. Unfortunately, the typical ratio of students to computers is approximately 40:1. Unless this situation improves dramatically, our children's exposure to computing will be so limited as to inadequately prepare them for college or the job market, or even to function as informed citizens in our complex society. Imagine trying to teach a class of 30 students to write when all the students had to share a single pencil. This is the situation faced by the majority of our teachers as they struggle to teach computing to our children.

The situation is even worse in poor neighborhoods, where there is not enough funding for basics, let alone computers. Poor children are also far less likely to have access to a computer at home than their affluent counterparts. If this gap continues to widen, it will manifest itself in even higher levels of unemployment for segments of our population which already struggle with high levels of illiteracy and high dropout rates. Over half of the funds authorized by this legislation are earmarked for financially disadvantaged schools.

This bill will authorize competitive grants for local school districts to acquire computer hardware and software. But even if we could place a computer on every desk in every classroom in America, only half of the battle would be won. For computers to be used effectively, State and local school districts need to develop plans for integrating computers into their existing curricula; teachers need to be trained to take full advantage of the computer's capabilities. This legislation makes awards contingent upon the local school district setting goals and developing plans for computer use, and also funds teacher training institutes. These provisions make it highly likely that scarce Federal funds will be used to best advantage.

Computers have the potential to empower our children intellectually through their application to even tra-

ditional areas of study. Children exposed to computers at a relatively early age may be more likely to consider pursuing careers in science and engineering, or even to stay in school rather than dropping out.

America is in a critical period with regard to our economic future. Economists predict that most low-skill, low-literacy jobs will vanish in the immediate future. The remaining jobs will require the occupants to have strong basic intellectual skills. Other industrialized countries such as Japan are already making major investments in computing equipment for their schools. The simple fact is that if we want the best for our children and our society, if we want to win the global economic competition, we must be willing to pay the price. The Computer Education Assistance Act of 1987 represents an investment in our children and in our future—an investment that will yield a substantial return in the form of a highly educated, competitive work force for the information age.●

INTERNATIONAL REFUGEE CRISIS

● Mr. DURENBERGER. Mr. President, I rise today to comment on the international refugee crisis. Too often, as this body considers crucial foreign policy issues, we overlook the human cost. We discuss U.S. policy toward various regions of the world but rarely deliberate on the impact such policies will have on the growing refugee population in the Third World.

Estimates of the current number of refugees vary widely; some exceed 20 million. Refugees are not merely statistics—they are human beings forced to leave the land of their birth for reasons of war, famine, or persecution. Many of the refugees are fleeing Communist regimes—and this is no coincidence. The plight of Cambodians, Afghans, Vietnamese, Ethiopians, Laotians, and Nicaraguans provides compelling testimony to the world about the results of Communist rule. And it is also no coincidence that these same nations are wracked with conflict and civil war.

There are many geopolitical and strategic reasons for the civil wars raging in many Third World states today. But in the midst of the strife, there are the omnipresent men, women, and children forced to leave their homes, forced to leave all that they own, forced to go to strange lands with little hope for the future.

The world has always seen refugees—wars have always left their victims homeless, repression has always forced people to flee their homelands. But in the past decade or so, the character of the refugee problem has changed. The world has seen tremen-

dous growth in a new class of refugees: those with little chance to return to their country in the foreseeable future. Unlike refugees in the past, the new refugees have little prospect of returning to their homes. And they are found in all regions of the developing world.

The new stateless peoples are the real victims of conflict in the Third World. Something like 5 million Afghans have fled the brutality of the Soviet puppet regime in their country. Despite occasional headlines trumpeting progress in negotiations, it does not appear that the Soviet Union is ready to end its occupation of Afghanistan soon.

Southeast Asia has faced the refugee problem for much longer than South Asia. Laotians, Cambodians, and Vietnamese have fled their states by the millions since Communists came to power in the 1970's. The tragedy of Southeast Asia is not over. The refugee camps in Thailand remain filled to more than capacity and countries willing to offer resettlement seem to be flagging in their commitment. The Thais have begun to close down refugee camps and force their inhabitants back to what can only be described as a most uncertain future. People who have barely escaped with their lives—often losing relatives and enduring incredible hardship—are being forced to go back in cruel twist of fate.

In Africa, millions more are homeless. Civil wars rage in Angola, the western Sahara, Sudan, and Mozambique. Forced resettlement in Ethiopia, a particularly vicious policy, has combined with repression and a separatist war to leave a million or more refugees.

Closer to home, conflict in Central America has created millions of refugees, chiefly from El Salvador and Nicaragua. Those fleeing strife have placed a tremendous burden on the resources of host states: Mexico, Costa Rica, and Belize. Thousands more have sought sanctuary in the United States, leading to a divisive debate over U.S. policy toward Central American refugees. While demagogues on both sides of the Contra aid issue use the refugee plight for their own arguments, the wars continue and the ranks of the refugees continue to swell.

The refugee crisis of the 1980's does not lend itself to simple solutions. Greater support for international agencies involved in refugee work is needed. A strong U.S. commitment to resettlement must continue. But if the refugee crisis is ever to ease, there must be concerted effort to deal with the causes, not merely the symptoms, of refugee creation. This means the political will to address the regional security issues and civil wars that force so many to leave their country.

Until the Soviet Union decides to allow Afghanistan the right of self-determination, refugees will not go home. Until there is peace in Central America, refugees will not be able to return safely to their homelands. As long as civil strife continues throughout Africa, refugees will have no place to go besides the squalor of the camps.

But beyond working toward resolution of the root causes of the refugee crisis, there is much that we can do. When I heard of Thai plans to close the Khao I Dang refugee camp near the Cambodian border, I wrote to United States officials and asked that they express our desire that the camp remain open to the appropriate Thai officials. I joined with Senator HARTFIELD in sponsoring S. 814, the Indo-Chinese Resettlement and Protection Act of 1987. S. 814 would address Thai concerns that the United States commitment to refugee resettlement is waning by committing the United States to a steady number of admissions from Southeast Asia, as well as providing funds for education in the Thai camps. S. 814 would go a long way to alleviating the tragic plight of Southeast Asian refugees.

I have also been active in other areas. When I heard that U.S. assistance programs for refugees were slated for reductions, I acted quickly and drafted a resolution which expressed the sense of the Senate that Federal refugee assistance should be maintained. As the Senate moves toward finalizing our appropriations for the next fiscal year, I have written to the chair of the Appropriations Committee and urged him to maintain adequate levels of refugee assistance. I will continue to monitor Federal assistance very closely and to do all I can to ensure that aid is not cut.

I have also spoken repeatedly on the need to address the problems in Central America that lead to refugees being forced to leave. Progress toward democracy is the best guarantee of the political freedom that is so lacking in the societies that generate refugees. And peace is the best guarantee of reducing the number of people forced to flee war and destruction.

I have supported the peace plan proposed by President Arias and continue to hope that the wars in the region can be resolved. But until that time, I do not think that the United States should deport Central Americans on the basis that they are economic migrants rather than refugees. Toward this end, I have cosponsored S. 332, which would provide for a stay of deportation for Salvadorans and Nicaraguans pending a full report on the conditions they face upon return to their countries. I have supported this bill in past Congresses and continue to believe that sending thousands of Salvadorans and Nicaraguans back to

their countries is not good refugee policy nor is it good foreign policy.

While these measures by themselves will not solve the refugee crisis, they will all help. The refugee issue is not simply abstract—not for me not for my constituents. In my meetings and in my travel, I have seen first hand the intense personal tragedy of what it means to be a refugee. I have heard heart-rendering stories of new Americans that had to leave everything behind, all too often relatives and friends as well as personal possessions.

In addition, my State of Minnesota is a national leader in its efforts on behalf of refugees. Over 26,000 refugees from Southeast Asia have made their home in Minnesota. It has not always been easy for them but their presence has immeasurably enhanced the already rich melting pot of Minnesota. Many of my constituents are active in assisting refugees throughout the world—from Thailand to Sudan, from Namibia to Honduras. I am proud of their efforts and will continue to do all I can to support refugees around the world. An insightful and thought-provoking series of articles on the international refugee crisis recently appeared in the Minneapolis Star and Tribune from September 13-16. Mr. President, I ask that this series be printed in the RECORD.

[From the Minneapolis Star and Tribune,
Sept. 13, 1987]

RANKS OF THE UPROOTED SWELL AS THEIR
OPTIONS DWINDLE

(By Frank Wright and Tom Hamburger)

GENEVA, SWITZERLAND

Switzerland, long known as a place of sanctuary, now forcibly ejects refugees, sometimes handcuffing them to police escorts to ensure their return to the lands they fled.

Thousands of Cambodian exiles, including children, hide in tunnels they dig by hand under a refugee camp in Thailand, avoiding guards, grabbing scraps of food from relatives and friends, clinging to the vain hope they will some day resettle in the United States.

Scores of Mozambicans running from civil war are killed or maimed by a high-powered electric border fence built by the government of South Africa to keep out refugees.

Hundreds of Afghan refugee children have picked up shiny Soviet bombs disguised as toy trucks and dolls—and lost arms, legs and eyes.

Such is the fate of the uprooted in 1987. They are people forced from their homes by political repression, superpower confrontations, civil war, tribal conflicts and fear of persecution for race, religion or political belief.

Never has the world refugee situation looked so bleak. The refugee population is at an all-time high, conditions in refugee camps are deteriorating and the Western countries that traditionally offered resettlement are closing the doors.

The United States, still the leader in refugee care, today accepts 75 percent fewer refugees than in 1980 and has taken strong steps to prevent certain groups from seeking

sanctuary here. Other Western nations have followed the U.S. lead.

Under the weight of a rising Third World refugee population and international disinterest, the complex international system set up to protect refugees may be permanently damaged.

Official counts show that the number of refugees has risen steadily from 7 million in 1982 to 12 million today. Unofficial counts show that three to four times that many people may have fled their homes in search of sanctuary.

With no place else to go, refugees are staying longer in increasingly crowded camps, facing conditions often as dangerous as those they escaped and destabilizing the Third World countries that offer them temporary haven.

There has been no conflagration of the scope of World War II or Vietnam to explain this population rise or create a widespread sense of crisis. But smaller conflicts, often backed by the United States and the Soviet Union, have fueled the steady creation of refugees.

By far the largest number of refugees are Afghans, about 5 million, or a third of Afghanistan's population. Most left after Soviet troops invaded eight years ago to prop up the country's Communist regime. The invasion ignited a civil war, backed on one side by the United States. That war continues today—as does the flow of refugees.

Two million Palestinians have been uprooted by the Arab-Israeli wars. Some have been without a permanent home for 40 years.

There are 3 million officially designated refugees in Africa, 1 million of whom are Ethiopians. Millions more have been forced to flee their homes by escalating political violence often backed by the United States or the Soviet Union. The new tinderboxes are in southern Africa, where military conflict has displaced millions in Angola and Mozambique. The number uprooted in southern Africa increased more than 500 percent in the past five years and the numbers will continue to grow.

More than a half-million refugees still languish in Southeast Asia, although the numbers are down from the peak years after U.S. forces pulled out of the region.

And about 300,000 have fled their homelands in Central America, many of them winding up in settlements akin to concentration camps.

These and the other displaced people who make up the world's 12 million official refugees have one thing in common. They receive help from the United Nations High Commissioner for Refugees, other U.N. agencies, individual friendly countries and more than 300 voluntary organizations, many church-related.

The story is much different for a similar number who are part of a second, vague category of unofficial refugees. Most left their countries to escape war or economic suppression but are not classified as people persecuted because of race, religion or political belief. They receive little or no international help.

For example, several hundred thousand Salvadorans and Guatemalans who fled north are hiding in the United States, unable to obtain refugee status. The Reagan administration says they do not face persecution at home and thus are not refugees.

A third category, also well into the millions, consists of people who have been forced out of their homes, usually by violence, but who have stayed in their native

country. Africa has more than any other continent, according to U.N. estimates, with 3 million South Africans and a million or more each in Mozambique, Ethiopia and Sudan. Iran and Afghanistan also have more than a million each.

Because they have not crossed a national boundary, these uprooted people have no claim on the international refugee system and must depend on their government and private agencies for help.

Refugees used to appear only periodically, most often in Europe, and the problems were solvable. After World War II, as permanent homes were found for displaced Europeans, their U.N. camps were closed and burned. The refugee offices of the World Council of Churches were shut down.

Now, however, regional disorder has become a permanent worldwide ailment. Refugees exist virtually everywhere, especially in less developed countries, and they are created virtually nonstop.

They have become "a major global phenomenon of our times, often inseparable from the range of problems affecting the political, social, cultural and economic development of the Third World," according to Jean-Pierre Hocke, U.N. High Commissioner for Refugees.

Before, refugees usually were white, reasonably well-educated, possessed a skill and came from a Western culture that eased assimilation into new homelands rather like their own. Now, refugees are likely to be people of color, have less formal education, lack readily transferable skills and come from backgrounds different from Western ways.

Living conditions for many exiles are increasingly precarious. Conditions in refugee camps are often as dangerous as the places the refugees escaped. Physical abuse by bandits and military attackers is rising in Third World camps.

Women and children, who compose 90 percent of the refugees in some places, are the most frequent victims. Even in the largest U.N.-supervised camp in Thailand, for example, there are regular reports of women being taken from their huts at night and raped by guards. Reports of children being kidnapped are frequent.

Extortion schemes are common. Profiteers who promise to cut red tape do not always deliver. Agents paid to lead people to freedom sometimes turn them over to the very authorities they are fleeing.

Refugees stay longer in camps because there is no place else to go. The average stay now is more than five years. Dependence on handouts grows, destroying self-esteem. Traditional cultures wither. Generations of refugee children who know no other life are growing up with little hope.

Most camps, and most refugees are in poor countries that, even with U.N. help, often find the economic burden overwhelming. Friction increases between the foreigners and local residents. Some host countries force refugees to return home in violation of U.N. agreements, even when the refugees face jail, torture or execution in their homeland.

Only one feature seems unchanged. Despite international agreements requiring that refugees be treated as nonpolitical, people fleeing Communist regimes often get a better reception in Western nations than do those fleeing non-Communist countries. When refugees flee their homeland their first stop usually is next door.

But hospitality is wearing thin in many of these countries of first asylum. Almost all of

the 20 countries with the highest proportions of refugees are in the developing world and have an average annual per capita income of less than \$850.

Thailand is a prime example.

When Vietnamese, Laotians and Cambodians began to pour across its borders in the 1970's, fleeing the aftermath of U.S. withdrawal from the region, Thailand made room.

For years, the Thai government provided temporary sanctuary before passing along the refugees for final resettlement in the United States and other Western countries. But now the West is taking fewer and fewer refugees, and Thailand is threatening to close its clogged camps and push newcomers back across the border.

Sudan is another example of the hospitality well running dry.

As recently as two years ago, Sudan housed more than 1 million refugees with few complaints. But now Sudan's economy is wallowing and its food supplies are inadequate. With the help of international assistance, some refugees in camps appear to have a higher standard of living than the Sudanese. Exiles outside the camps compete for employment, land, water, schools and medical care.

The Sudanese government now rounds up refugees in the cities and sends them to isolated border camps. Those without proper documents are jailed. During the 1950s, 1960s and into the 1970s, economic times were good in the West, and sympathy for refugees was high.

Refugees passed along from Thailand, Sudan and other first-stop nations often were received as economic and cultural assets.

Since 1975, the United States has admitted more than 1 million refugees, 80 percent of them Southeast Asians. More than 30,000 have come to Minnesota, placing Minnesota among the top 10 resettlement states.

Canada has accepted more than 170,000; France and Britain more than 145,000 each; Australia 125,000. Nations such as Sweden, Switzerland and Denmark rank higher than many large nations in refugees admitted relative to their population.

Those days are ending.

Even in Minnesota, which has a worldwide reputation for welcoming refugees, there is evidence of fatigue. There is a decline in the number of refugee sponsors and state officials have been talking quietly with ethnic leaders about encouraging refugees to migrate elsewhere.

Increasingly, refugees "are presented not as people in need of help, but as people who constitute a threat to the order of things," said Philip Rudge, secretary of the European Consultation on Refugees and Exiles. "They do not have problems. They are the problem."

Economic conditions have tightened throughout the industrialized West, and refugees are accused regularly of taking jobs from local residents. At the same time, the number of asylum applicants is rising. Antipathy toward these foreigners, especially those with colored skin, is growing.

U.S. admissions have declined from a high of 207,000 in 1980 to 62,000 last year. The Reagan administration is expected to propose a lower ceiling for next year.

Canada, which only a year ago won the international refugee community's highest humanitarian award, is enacting tougher legislation. It feels threatened by people—Tamils from Sri Lanka and Sikhs from India—who can't find asylum elsewhere, and

by increasing numbers of Salvadorans who are heading north in fear of deportation from the United States.

Western European nations, confronted by a 50 percent increase in asylum-seekers in the past three years, also are tightening up.

France now requires visas that virtually no asylum applicant can produce. West Germany, once the region's most open country, fines any airline that brings in undocumented asylum-seekers. Belgium, the Netherlands, Denmark, Austria, Britain and Norway have taken similar actions.

Switzerland, despite being the headquarters of the U.N. High Commissioner for Refugees and the Red Cross, is especially active. Deporting unwanted aliens is only one move. Voters, by a 2 to 1 margin, in April endorsed tighter refugee laws. The Swiss were the hosts this spring for European meetings to discuss joint restriction plans. Further actions are pending.

One result in Europe is that numerous asylum-seekers, many of them Tamils, Iranians and others from southern Asia and the Middle East, bounce from one airport to another in search of a country that will let them in. More and more are unsuccessful.

Melaku Kifle, coordinator of refugee services for the World Council of Churches, is an Ethiopian who has seen more than a million fellow Ethiopians flee to Sudan and Somalia to escape war and famine. "The poor African countries are accepting of refugees," he said. "Now, when the United States complains, or Europe, about too many refugees, I have difficulty to understand that. Where is the sharing?"

Western officials dealing with this mounting influx of would-be refugees say most of them are economically motivated, simply want a better life, are leaving home voluntarily and do not meet the test of being persecuted. The tighter requirements, the officials say, are intended only to weed out fraudulent asylum claims.

Refugee advocates charge the "economic motivation tag is being applied liberally by some nations wishing to avoid a legitimate humanitarian burden.

As the debate goes on, the number of people who can be resettled permanently in new countries has become restricted just as demand is increasing.

There is little prospect the situation will improve.

A 1986 report for the Independent Commission on International Humanitarian Issues concluded: "There is nothing to suggest that this trend will be reversed in the immediate future, particularly in the developing countries. The combination of population growth, economic stagnation and ecological deterioration is almost certain to lead to increased poverty and social tension.

"Add to this the burgeoning arms trade, increased militarism and intolerance, and the stage is set for a series of massive movements of population."

[From the Minneapolis Star and Tribune, Sept. 14, 1987]

CROSSROADS OF ASIAN SANCTUARY HAS BECOME HARDER PATH FOR MANY

(By Frank Wright and Tom Hamburger)

Climb the final ridge on the path used by Cambodian refugees and you will see it; a giant red cross painted on top of the medical buildings of the Khao I Dang refugee camp in Thailand.

For years, that vision symbolized relief and sanctuary for Cambodians attempting to flee the violence that gripped their country.

Today refugees still climb the lush Dangrek Mountains to escape violence in Kampuchea, formerly Cambodia. But the giant red cross atop the building of Khao I Dang camp is fading and so is the commitment to provide sanctuary.

Instead of being welcomed at Khao I Dang, refugees are greeted by armed guards posted to keep newcomers out. Instead of getting access to regular supplies of food, thousands of refugees are forced to hide in dark tunnels under the camp, getting sustenance where they can from the black market, from relatives, from friends.

Where once there was hope of joining relatives overseas, most new arrivals face the dismal prospect of years in an unsupervised border camp, where young men are conscripted to the U.S. backed resistance, young women may face physical abuse and all face a future clouded by continued warfare.

Around the world, the two most important rights of people in flight—the right to seek asylum and the right to protection—are being eroded. A system of international agreements and aid programs is supposed to assure these rights.

It is failing.

Nowhere is this breakdown more visible than in Southeast Asia. After the United States pulled out of the region in 1975, Thailand and other western-oriented Southeast Asian countries agreed to provide temporary sanctuary for those fleeing Communist forces on condition the refugees be resettled elsewhere. The United States and other Western nations agreed to open their doors for resettlement.

Since then, about 1.2 million refugees have passed through Southeast Asian refugee camps on their way to the West, half to the United States.

Today, the Western world has reduced its resettlement commitment. But the refugees keep flowing at a rate of about 30,000 a year, and the hospitality of countries like Thailand is exhausted.

As a result, the primary refugee groups seeking asylum in Thailand—Cambodians, Hmong, Laotians and Vietnamese—face an array of crises that reflect the problems facing refugees worldwide.

The first step in becoming a refugee, according to international law, is entering a new country to apply for asylum, or sanctuary.

For the Hmong people of Laos, that right has all but disappeared. The Hmong served as the United States' allies in the secret war in Laos, and suffered losses many times greater proportionally than those of U.S. soldiers in the region.

Because of that service, the Hmong were targets for the Communist forces that swept Laos after the U.S. departure in 1975. The Hmong were told they could come to the United States if they wished and about 60,000 came by way of Thailand. Others stayed in Laos fight the Communist government.

Today, thousands of Hmong fighters who continued resistance activities are tired and are seeking refuge in Thailand. But 12 years after the end of the war in Indochina, their welcome is wearing out.

A group of about 1,400 former fighters, for example, has been forced by Thai soldiers to stay in a cramped jungle encampment at Nam Pun in northern Thailand. Although that group now has access to some food and medicine, Thai officials have threatened to force them back to Laos.

Their situation reflects what happens when a first asylum country, such as Thai-

land, feels overwhelmed with a long-term refugee population. About 60,000 Hmong refugees remain in Thai refugee camps, unsure whether to emigrate.

Similar refugee situations have threatened first asylum rights in Sudan and Djibouti, where Ethiopian refugees have been threatened with forced repatriation to Communist Ethiopia, which is known to abuse human rights.

Tanzania and Kenya agreed four years ago to return refugee dissidents to their home countries, where several reportedly were killed and several remain in jail.

Since 1981, the United States has turned back asylum-seekers from Guatemala, Haiti and El Salvador, despite claims that they would be persecuted on return.

Thai officials say they plan to continue to force back some groups of arriving Hmong—including women and children requesting asylum—because they are not considered refugees. They are resistance fighters, the Thai say, who want to use Thailand as a base. Also, says Thailand's top refugee official, "We can't allow an endless streams of people across our borders."

In whispered conversations, visitors to the Site 2 camp near the volatile Thai-Kampuchean border hear that the Thai guards and Kampuchean soldiers victimize refugees, shooting those who break camp rules or won't pay extortion fees or submit to sexual advances.

"Every day," one hospital worker said, "we have at least one person injured and one killed by guards." He pointed to a bandaged man in one of the hospital beds to confirm his story. The man concurred.

Six weeks ago, for example, a Thai guard raped and shot a pregnant woman outside the Site 2 camp.

According to witnesses, the guard caught the woman and her disabled husband gathering firewood outside the camp's fence in violation of rules and chased the pair up a hillside. Volunteers found the woman shot several times in the head. Her husband had been badly beaten. The soldier has not been apprehended.

On the nights of March 21 and 22, 1986, three Thai officers tortured Cambodian refugees who were suspected of raiding another camp.

The torture included applying a hot iron and burning firewood to various parts of the refugees' bodies, setting their hair on fire, pouring boiling salt water over open wounds and whipping them with electric cables. The accusations were documented by the Lawyers Committee for Human Rights. But the officers were never charged.

Daily rapes and kidnapping and extortion are reported by camp residents. Lately there has been a startling increase in kidnapping young refugees with relatives in the United States and holding them for ransom.

The problems are exacerbated because the Thais order all international relief personnel, including those with the United Nations, to leave the camps at nightfall. Then, says one camp resident, "It's open season on the refugees." The Thais say the curfew is enforced to protect the safety of the international personnel. Relief workers, however, suspect they are evicted at dusk to protect the lucrative smuggling and extortion rackets.

Similar reports come from other countries overwhelmed by refugees. In Honduras, where thousands of Salvadorans moved into temporary camps, troops have been known to beat and even kill camp residents because they are thought to support soldiers fight-

ing the U.S.-backed government of El Salvador. In the Cambodian border camps, boys pretend to be girls by growing long hair and wearing earrings. They do this to avoid being compelled to join the resistance armies that hope to retake Kampuchea from the Vietnamese-backed government now in control.

Because the Cambodian refugee camps are near the border and are considered support bases for the resistance, they are subject to attack by Vietnamese and Kampuchean troops. In June, eight refugees were killed and dozens injured in an attack by Vietnamese forces.

Most Cambodians are now labeled displaced persons, not refugees, in part because the Thai government hopes these displaced persons will one day force the Vietnamese out of Kampuchea and return to their homeland.

Displaced persons are placed in camps controlled by one of the three factions making up the Cambodian resistance, including the Khmer Rouge, the Chinese-backed faction that killed at least one million Cambodians before being ousted by the Vietnamese in 1978. About 60,000 displaced Cambodians are placed in camps controlled by the Khmer Rouge. Reports of human rights violations are increasing from those camps.

The United States, China and Thailand support the resistance because it puts pressure on the Vietnamese and their Soviet supporters. But such a strategy forces refugees into a strategic and dangerous role.

A major terror for Cambodians living along the border, and for the Afghans in Pakistan, is the noise of exploding munitions. Already this year at least 300 Afghan refugees in Pakistan have been killed in air raids by the Soviet-backed Afghan Air Force. The Afghan refugees are seen as very much part of the resistance movement. As a result, Afghan refugees, like the Cambodians, remain forever under the threat of war.

As the number of people in flight has grown, the world has shown less interest in helping them. According to United Nations agreements, most countries are prohibited from forcing refugees back into the countries from which they fled. They are, however, permitted to turn back economic migrants or other unwanted arrivals.

In deciding who can stay and who cannot, Western nations have become increasingly restrictive and increasingly tough.

In 1981, the United States began jailing asylum-seekers while their cases were considered. Other countries used similar tactics.

In Southeast Asia, many of those in flight now are considered economic, not political, migrants.

The result, according to refugee advocates, is that legitimate refugees often are treated harshly and denied asylum.

Refugee groups claim to have catalogued harsh resettlement decisions by Thai admissions personnel and by interviewers of the U.S. Immigration and Naturalization Service (INS). Laotians from the lowland areas of the country are a case in point.

Since Vietnamese-backed Communists took control of Laos in 1975, about 360,000 Laotians, or ten percent of that country's population, have crossed the Mekong River to Thailand.

Those arriving today often are considered economic migrants by Thai and U.S. officials because most of those directly associated with the U.S. war effort came out just after 1975. Therefore, some U.S. officials argue the United States should be more circumspect about admitting them.

To cope with the steady stream of people fleeing Laos, Thailand announced a screening process in 1985 designed to separate real refugees from economic migrants who could be returned home safely.

The screening process doesn't work well. Today, for example, about 2,600 Laotians are held in jails in Thailand while they await repatriation to Laos or acceptance to a refugee camp. At Nong Khai, visitors can see whole families kept for months in crowded cells while awaiting screening. Some refugees eventually can buy their way into a refugee camp by paying Thai border officials, currently about \$1,000 apiece.

Families interviewed at Thai jails along the Mekong River in April claimed to have connections to the U.S. military and some produced documents to prove it. The families said they were crossing to Thailand because they were just released from Communist reeducation or labor camps.

Vietnamese refugees are treated even more harshly.

Since Communists gained control of Vietnam 12 years ago, more than a million people have fled the country, usually venturing into the rough waters of the South China Sea in rickety boats.

If they didn't perish at sea, they likely fell prey to pirates, who robbed, raped and often killed the refugees. Thailand, with assistance from the United Nations, has started an effective antipiracy program, but the risks remain staggering. Of 60 boats of Vietnamese refugees arriving in southern Thailand in the first four months of this year, 17 had been attacked by pirates. The percentage of boats attacked during the period, 28, is down from 46 percent in 1986.

If they are able to reach land, Vietnamese escapees increasingly are viewed as economic migrants, not refugees. In Hong Kong today, boat people are told they face detention and possible repatriation to Vietnam. About 10,000 are held in crowded, prison-like circumstances. Many have been held for years.

Malaysia, which provided first asylum to more than 214,000 Indochinese refugees since the U.S. pulled out of Vietnam, is now considering closing its refugee center, Pulau Bidong. Malays allowed boat refugees to land in the past, according to State Department officials, because of promises from the West that the refugees would be resettled. Now the camp population is about 5,000 and it is more difficult to find them homes. The Malays don't want to be stuck with a permanent refugee population.

In the face of all these problems, people look to one agency for help: the U.N. High Commissioner for Refugees. But the agency faces a situation beyond its control and its authority.

The commissioner said in 1986 that the "personal safety and very survival of refugees and asylum seekers are increasingly at stake" around the world because of wars and human rights violations. The problem, the commissioner said may be the worst it has ever been.

But U.N. officials acknowledge they are not able to change the situation much because they have few enforcement powers. For example, Thailand never signed the Geneva agreements securing refugee rights and has the authority to evict U.N. personnel at any time.

Even those countries that signed the agreements are accused of violating refugee rights. The United States, for example, was criticized when it turned Haitians away at sea.

It's difficult for the U.N. to criticize the United States and other Western nations because those countries provide most of the agency's budget.

As one U.N. official put it, "How can we persuade an African country or any other developing countries to take more refugees when we have been softer in complaining about the West?"

[From the Minneapolis Star and Tribune, Sept. 15, 1987]

HOPE, SKILLS DWindle AS TIME IN CAMP GROW

(By Frank Wright and Tom Hamburger)

NASIR BAGH, PAKISTAN

The boy was 2 when he and his family walked across the jagged mountains to Nasir Bagh refugee camp.

Now they are a number—PR-1002.7—in Nasir Bagh. There they struggle to retain their identity, their skills and their humanity along with millions of other uprooted people forced to live long and longer in refugee camps around the world.

Now the youngest son of Imamullah Mujebbillah is 7—and looking forward to the day when he will be old enough to join the camp's resistance forces that are fighting Afghanistan's Soviet-backed government.

His family's hard but tranquil existence ended almost five years ago when Soviet forces charged into their village, intent on wiping out suspected rebel sympathizers. Homes were blown away, crops burned. Five family members were killed. Mujebbillah, his wife and five surviving children fled to Pakistan.

These long-stayers are the worst off among refugees, a new underclass often called a Fourth World. They result from military conflicts and repression that mass produce new refugees and prevent old ones from returning to normal lives.

These conditions combined with declining resettlement opportunities in the west have produced a whole generation of children who know life only as refugees. They are people going to waste.

The average camp stay is five years and rising at the rate of several months each year.

Many Afghan and Southeast Asian refugees have endured life in camps for ten years or more. Some Palestinians have been refugees for almost four decades. The United Nations sees a "real danger" that some refugees may remain in camps forever.

Long-stayers now comprise half the world's refugees population, according to official estimates. They are the most dependent and apathetic of the refugees.

A glance at Mujebbillah's worried and creased face confirms this. He looks older than his 47 years as he stands in lines dictated by a monthly schedule, displaying his numbered identification card to officials so he can collect handouts of cash, food, fuel and clothing for his family of seven.

Like all refugees, especially longstayers, Mujebbillah is controlled by the system, benevolent as it tries to be. He no longer is in charge of his own life, and his depression shows.

What hope he has left is focussed on his young son. But for his son, and other children in the camp, the future is one likely to be filled with war.

Women and children, who comprise up to 90 percent of the world's refugee population, suffer the most under circumstances like these. For example, child deaths have doubled in Mozambique in the last decade,

largely due to the civil war between the Marxist government and rebels backed by South Africa. And a congressional committee estimates that in Mozambique and neighboring Angola, also gripped by civil war, half the children will be killed or crippled before the age of 5.

A continental conference called this year in Africa to assess the impact of war on children reported that more than 320,000 Mozambican children died between 1981 and 1986, giving the country one of the highest child death rates in the world.

Despite serious drought and famine, the nations of Africa spent more in 1984 to import weapons than to import food, according to the United Nations Children's Fund. Military conflicts frequently are fueled by superpower aid. Once equipped by the United States or the Soviet Union, rival factions become surrogates fighting wars with East-West overtones in places such as Nicaragua, El Salvador and Angola.

As the wars continue, the refugees they create can do little but escape to a camp and wait. Sometimes their stays are extended when some refugees are armed, usually by a superpower, and their camps are used for military purposes. Both are violations of international rules.

The best-known example is the covert U.S. funding of Afghan resistance fighters in refugee camps in Pakistan. Soviet weapons have found their way through Syria to Palestinian groups that operate in or near Middle East refugee camps. Resistance fighters also operate out of some of the refugee facilities in Central America and Thailand.

The expense of these wars is more than military. They also raise the cost of refugee care. The annual budget of the United Nations High Commissioner for Refugees is approaching \$500 million. That is almost a five-fold increase in constant dollars since the mid-1970s, when the number of refugees began to increase along with the average length of stay in camps.

Most of the U.N. money must be spent on immediate needs. Less than 40 percent is available for such long-term solutions as helping refugees return home.

The refugees who remain in camps for long periods live in limbo. They fear returning home. They aren't allowed to settle permanently in the countries that provide sanctuary in the camps. And many of those who do want to move on and start anew often are thwarted by the increasing resistance of the rest of the world to refugees.

So these people stack up in the camps, their numbers compounded by some of the world's highest birth rates—the only way they see to offset the deaths of so many of their children.

The Mujeebvillahs, into their fifth year in Nasir Bagh, are close to the average stay.

The camp's 70,000 residents live in traditional mud huts and a smattering of tents spread over a windy, dusty, treeless plain near Peshawar, the provincial capital. Nasir Bagh opened shortly after the Soviets invaded Afghanistan in 1979. It is one of the oldest of the 247 camps that dot Pakistan's North West Frontier Province.

If asked what he thinks of his circumstances, Mujeebvillah shrugs and looks at the ground. Asked about his own hopes for the future, he talks instead of his two sons, 7 and 10, and of the day, only a few years away, when they will be old enough to pick up rifles and take the family's place in the ranks of the resistance. He speaks little of himself, typical of long-term refugees who see their own lives as finished.

When he first was a refugee, he went regularly into Afghanistan with the resistance to fight. But now he is considered too old. He spends a few days every month as a laborer at an Islamic school. The pay is about \$15 a month. Mostly he does nothing.

Many of Mujeebvillah's younger neighbors, however, have virtually a full-time occupation—the war.

Nasir Bagh is one of many border camps used by the resistance as a recruiting center and arms depot. Weapons are plentiful despite Pakistani bans. Fighters from the camp join pack-horse caravans that attack enemy garrisons inside Afghanistan.

Military training starts at an early age. During morning recess at Peshawar's Imam Abohanifa school, run by the refugees, earnest schoolboys marched under the command of a former resistance fighter.

Dressed in camouflage uniforms and carrying wooden rifles, the 8-, 9-, and 10-year-olds about-faced, performed bayonet thrusts, hit the dirt and crawled on their bellies as the dust from the street rose around them. In perfect unison they shouted resistance slogans: "Death on Russia. Death on Russia, Death on Russia." At the top of their lungs, they sang songs honoring dead resistance heroes. They all knew every word.

Pakistani administrators can't control resistance activities and don't seriously try. They simply ask the refugee fighters to keep a low profile while in camp.

The refugees usually comply, although not always. An ammunition dump in one camp blew up one night when several Soviet prisoners being held illegally by the rebels tried to escape. The Soviets died in the explosion.

Because of this kind of military activity, the United Nations has been unable to agree on a policy concerning attacks on refugee camps. Some members argue that no attacks should be condoned. But others say retaliation should be permitted against camps clearly being used for military purposes. Despite their number, which represents one of the largest and longest-lasting concentrations of refugees in history, the Afghans in Pakistan are fortunate in some ways.

Pakistan officially welcomes them and provides half the \$362 million annual relief budget. Government support seems steadfast even though public resentment is building. In addition, Pakistan is familiar ground to many refugees because of old family ties, language similarities, years of border crossings by traders and nomads and the common Islamic heritage of the two countries. Refugees are permitted to find jobs and start businesses outside the camps, and many have.

Refugees in other nations of first asylum usually have less freedom and often attract more opposition. In Thailand, for example, they are confined to camps and kept under armed guard. They may not take jobs outside or start businesses. Salvadoran refugees in Honduras are restricted, as are Palestinians in some Arab nations and in territories occupied by Israel.

Despite their advantages, Afghans in Pakistan suffer most of the difficulties that plague long-term refugees everywhere.

Subjugation of Afghan women reflects the sex-based discrimination that almost all refugee women endure. Because they often live among strangers in Nasir Bagh and other Pakistan camps, Afghan women are kept out of sight and their activities are even more limited than during pre-refugee days.

They seldom set foot outside walled family compounds because of tightened cultural and religious restrictions.

Women never hold leadership positions in the Afghan camps. To the contrary, they often are pawns in frequent maneuverings among male political factions in the camps.

For example, a U.N.-sponsored supplemental feeding program for undernourished children in a camp near Nasir Bagh was shut down temporarily this year after one political faction complained that the program gave mothers and children too much opportunity to congregate by themselves at the medical clinic. The shutdown boosted the influence of the winning faction at the expense of the children.

Health care for long-term refugees worldwide often is spotty and sometimes inadequate. Women and children usually suffer the most. Care for the Afghans in Pakistan and fellow Muslim refugees in other countries is especially at risk because their religion requires separate facilities and medical staffs for men and women, stretching slim resources further.

Food distribution to women and children in camps throughout the world frequently is unfair. The many families headed by war widows and other single or abandoned women often are last in line because they lack a man to protect their interests. Food is used to extract sexual favors. Sometimes it is diverted to the black market or other profitable schemes, leaving women and children hungry.

Diversion and favoritism have been common among the Afghans. Pakistani officials say they have corrected most of the problems by eliminating religious mullahs, tribal maliks and other traditional male leaders as middlemen in the distribution system. In Nasir Bagh and most other camps, goods now go directly to heads of families, such as Mujeebvillah. But problems remain. One official said illegal diversion of food at Nasir Bagh is now an "acceptable" 5 to 10 percent.

A high proportion of children who live in camps for years contract emotional and psychological disorders. More than most refugees, they suffer from immaturity, delays in learning to talk, excessive nightmares, bed-wetting, insomnia and fear of strangers.

Learning disabilities also are common.

Refugee education is the top priority for the U.N. Relief and Works Agency, which works solely with Palestinians. Many Palestinians have used U.N. schools as a route to good jobs and a better life throughout the Arab world.

But education often lags badly among long-staying refugees in other places. Children who see no future lose interest. Sometimes their cultures put little value on formal learning. And sometimes it falls victim to international politics.

In many first asylum nations, classes focus narrowly on preparing refugees for permanent resettlement in another country. In Thailand most camps have a basic program, but courses like airplane etiquette and English often are emphasized. Even those may end if the Thai carry out their threat to stop refugee assistance.

Afghan school-age children have become prizes in an unusual ideological battle with the Soviets.

The refugees' traditional disinterest in formal education has started to change since parents and political leaders became aware that back home in Afghanistan the Soviets are promoting schooling that is heavily laced with Communist indoctrina-

tion. The refugees, from a culture with a literacy level of less than 10 percent, realized that some day their offspring will have to compete for control of the country with Afghan children educated by the Soviets.

So refugee education programs are expanding, heavily flavored by Islamic instruction as a religious antidote to communism.

Once again, however, sexual favoritism is evident. By far, most students are boys. In Nasir Bagh the ratio is more than 4 to 1. Girls rarely attend past fifth grade, an age on the verge of puberty and the beginning of traditional confinement at home.

There also is a large wave of dropouts every year among boys 13 or 14 it is the time for them to get ready to go to war.

[From the Minneapolis Star and Tribune,
Sept. 16, 1987]

TRADITIONAL APPROACHES NO LONGER WORKING

Donations from warm-hearted people to benefit concerts like Live Aid and Band Aid can help resolve an immediate crisis facing refugees by providing food, medicine and emergency shelter.

But when public attention shifts to another issue and the supplies dwindle, then what?

Refugee officials have long known that such relief efforts make little progress against the overwhelming problems created by the swelling tide of refugees—a group that's grown by 50 percent since 1982.

In recent years United Nations and other officials have started looking deeper, adopting three programs to reduce refugee populations over time. Lately, even those three programs are beginning to lose promise. And some are saying the answer can be found only by resolving the root causes of refugee creation: political repression, wars and foreign intervention.

The first—and most preferred—of the three solutions usually pursued by the United Nations is to help refugees return home.

Last year was the best in several years because up to 250,000 Ugandans were able to return after years of brutal rule in that country. But the Ugandan returnees constitute only a fraction of the millions who remain uprooted around the world.

Since 1975, between 2 million and 3 million refugees have gone home. That is not enough to offset the growing number of refugees, which has increased to 12 million by official count since 1980 and to perhaps twice that unofficially.

Nonetheless, the U.N. High Commissioner for Refugees (UNHCR), the key international agency assisting refugees, now promotes repatriation more aggressively.

In some cases the agency has pushed so hard that it has been accused of violating the international rule that all returns be voluntary. Refugee advocates claimed, for example, that UNHCR acquiesced while Ethiopian refugees in Djibouti were pushed home against their will.

The agency denies that.

Yet an August report by the United Nations on Central America noted that returning home is problematic for refugees today, even when new governments promise freedom from persecution.

The "sober reality" is that refugees going back home "are returning to homes that have been destroyed, to farm plots sometimes occupied by others and to a country in which war has played havoc with the economy," the report said in describing the situation in Guatemala. "As former refugees,

they are sometimes viewed with suspicion by neighbors or local authorities or pressured to join sides in the war whose consequences they fled earlier. Return to the village of origin often means going back to areas of conflict where they again are caught in the cross fire."

A second long-term solution, permanent resettlement in a country far from home, will not end the refugee problem either. The Western nations that have accepted the most refugees for resettlement could help relieve short-term crisis situations—like that in Thailand—if they increased admissions. But they cannot resolve the growing worldwide problem even if they doubled admissions.

Since 1975, more than 2 million refugees have found permanent new homes through resettlement, about half in the United States. As with repatriation, the annual average is a relative drop in the bucket compared with the growing refugee population.

The third option is permitting refugees to settle permanently in their first country of refuge as full-fledged residents with full rights and privileges. This solution is sometimes popular with the refugees but seldom with their hosts. Because most first-asylum countries are in the developing world and are as poor as the neighboring homelands from which the refugees come, the hosts are increasingly reluctant to consider the exiles as anything but temporary. UNHCR seldom promotes this solution anymore.

So what works? In one new program, U.N. agencies are cooperating with the World Bank to secure loans for construction of schools, clinics and environmental projects.

Some of the projects have been troubled in the early years. But in Pakistan, bank funds have financed a reforestation project in which a largely Afghan workforce was hired to plant thousands of acres of brush and trees that had been stripped for the refugees' goats, cattle and cooking fires.

The goal is to encourage refugee self-reliance and give the host country a boost, too, without immediately requiring anyone to say the refugees are permanent residents.

However, Kevin Lyonette, UNHCR chief in Pakistan, said his agency must avoid making the temporary enrichment programs so appealing that they will tempt refugees to stay or become magnets that attract would-be refugees.

To strengthen protection for refugees, especially women and children, some officials also have proposed a special corps of U.N. observers to monitor camp safety.

All of these plans cure symptoms only. Many leaders in the refugee assistance system and in the U.S. government agree that that no longer is enough.

They say traditional aid must be coupled with world-wide political attacks on the complex conditions that cause today's unending flow of refugees.

For example, ending the eight-year war in Afghanistan between the Soviet-backed government and U.S.-supported rebels would be a major breakthrough, allowing 5 million Afghans—the largest group of refugees in the world—to return from Pakistan and Iran. Peace negotiations stalled again last week over two issues: the timetable for withdrawing the approximately 120,000 Soviet troops in Afghanistan and the nature of the government the Soviets wish to leave behind.

Jean-Pierre Hocke, the U.N. High Commissioner for Refugees, is making his bosses uncomfortable by putting more responsibility on them. He told the agency's 41-nation

executive committee not long ago that "it is no longer sufficient for states to consider they have fulfilled their obligations by contributing generously to UNHCR programs. UNHCR needs more than just your humanitarian support. We need your collective political will . . ."

Relief aid, he said, cannot be used to "deflect or avoid the obligation to address the root causes of refugee flows."

To help get at those root causes, refugee advocates and others have encouraged agreement between the Soviet Union and the United States to limit their participation in regional conflicts such as those in Angola, Central American and Afghanistan. Reduction or elimination of military aid in these civil wars could shorten them, reduce their intensity and produce fewer refugees.

Such an agreement is not likely, however. President Reagan and Soviet leader Gorbachev decided at their November 1985 summit to consult regularly on regional conflicts, but nothing of substance has resulted.

The lack of Soviet-U.S. progress illustrates the difficulty facing Hocke and others campaigning against underlying causes. "This is a tough job for Hocke because he has to confront his major donors (the United States and the European Community), who already have been pulling back on refugee interests and ask them for new leadership," said Brian Neldner, associate director of Lutheran World Federation and a longtime international leader in refugee assistance.

The problem is further complicated because Hocke does not have direct access to the Soviet Union. While it belongs to the U.N., it refuses to participate in UNHCR affairs.

In the United States, a small group of policy makers is concerned about how U.S. foreign policy contributes to the creation of refugees. For example, Doris Meisner, a former commissioner with the U.S. Immigration and Naturalization Service now with the Carnegie Endowment for International Peace, warns that the contras could become the Hmong refugees of the 1990s.

In a recent interview, Meisner compared the anti-Communist fighters in Nicaragua with the Laotian hill tribe that fought the Vietcong with U.S. weapons and advisors in the 1960s and 1970s. The United States already has accepted about 60,000 Hmong refugees and is trying to assist an equal number waiting in refugee camps in Thailand.

"We did everything to bring the contra fighters out of dormancy," Meisner said. "People don't realize the cause and effect with those people who we get to be our surrogates. We may be even more obligated to them than to the Hmong because we gathered people to fight who weren't even in the area. We empowered and emboldened them. There's going to be a large refugee obligation in Central America. Its very much in the cards."

A small bipartisan group of U.S. officials have expressed interest in a new way to at least increase awareness of the hidden cost of refugee creation: civilian impact statements. It sounds bureaucratic, but it might force policy makers to acknowledge the human cost of certain strategic decisions.

"We consider around here environmental impact statements. Shouldn't we consider refugee impact statements or civilian impact statements as a result of our foreign policy decisions?" asked Sen. Edward Kennedy, D-Mass., during the debate over funding for rebels in the Angolan civil war.

"I think it would be good guidance to all administrations to consider the impact of our policies, particularly military aid, on the creation of refugees."

Elizabeth Ferris, a refugee official at the World Council of Churches, is one of many experts with typically low expectations for the future. During the next 20 years she and others predict increasing poverty in the developing countries, increasing social tensions and political turmoil, more warfare, continued superpower interventions, more refugees, growing international racism, more antipathy toward foreigners, more resistance to giving sanctuary to refugees and less international assistance for them.

"Given the present trends in the world," she said, "it is difficult to be optimistic." ●

REPORT OF THE TRIP OF RHODE ISLANDERS TO NIQUINOHOMO PROVIDENCE'S SISTER CITY IN NICARAGUA

● Mr. PELL. Mr. President, I would like to share an interesting report written by a group of Rhode Islanders who traveled to Nicaragua this summer under the sponsorship of the Providence-Niquinohomo Sister City project. They spoke to a wide-range of people from various sectors of Nicaraguan society, including Nicaraguan Government officials and as well as critics of the government, and had an opportunity to visit the countryside and communicate with the campesinos. Their report concludes that the people of Nicaragua have no animosity toward the people of the United States and want the Contra war to end so they can live in peace.

So that my colleagues have the opportunity to read the views of Rhode Islanders participating in this people-to-people project, I ask that the report be printed in the RECORD.

The report follows:

TO THE HONORABLE CONGRESS OF THE UNITED STATES

A delegation of five Rhode Islanders spent eight days touring Nicaragua. The trip was sponsored by Rhode Island's sister city project of Niquinohomo. The tour was conducted by the Center for Global Education located at Augsburg College in Minnesota.

Our schedule had us meet with numerous individuals and groups. They are as follows:

Members of the General Assembly; the President of the Conservative Party; a lawyer representing LaPrensa; the editor of a paper supportive of the Government; a representative of Cardinal Bravo, an economist from Stanford University working for the Nicaraguan Government, and a General Assembly member from the Atlantic coast who represents the needs of mixed Indian cultures.

Also, the director for food distribution; a wealthy rancher; textile factory workers; union leaders; nurses and health care workers; a director of a women's association; representatives of the American Embassy; the Mayor of Niquinohomo; and the campesinos—the peasants of Nicaragua.

Most people we met were not members of the Sandinista Party but most supported the Revolution and the present Government. We found criticism of the Government by people who work in and out of the

Government. Some of these criticisms were over food distribution, transportation problems, farming techniques. However, these people still supported the Government.

LaPrensa, which supports the Contras, was vocal in its disapproval of the Government, along with the President of the Conservative Party.

We saw political pluralism. Opposition parties had billboards displayed throughout Managua. We were free to go anywhere and speak to anyone we wished. We took pictures freely except at military installations and the inside of the U.S. Embassy. Most importantly, we set our own agenda.

Our general impression is that Nicaragua is suffering economic and physical hardship. This, in large part, is due to three factors:

The Contra War;

The trade embargo, and

To a lesser degree, the Government's past mistakes in its economic policies

The Contras, the so-called freedom-fighters, intra-structure is made up of Somoza's National Guard. We met with mothers who have lost their sons to these Contras. One mother whose son was seventeen when killed by the Congras, invited us to her home. There her daughter asked us to take a picture of her and her semi-automatic rifle. There, in that picture, we saw that these peasants are willing to defend the Revolution. The peasants are well armed. They need arms to protect themselves from the Contras. Some also believe that they will be invaded by the United States. The example of the invasion of Grenada was given. Due to the Contra War, we were told and it was confirmed to us by the U.S. Embassy in Managua that the Government spends fifty to sixty percent of its budget on the military, hence, the high inflation rate. While we were there, the exchange rate was 5,500 cordobas to one American dollar.

The War is spreading havoc in the farming areas because the Contras continually attack coffee plantations and cooperatives. While we were in the town of Boaco, we were prevented from visiting such a coffee cooperative due to Contra activity in the area. Also, there are fewer people to harvest the crop since they are in the military.

The trade embargo of the United States is the second factor that is hurting the people of Nicaragua. Public transportation is problematic due to the lack of spare parts. We visited a fifteen member sewing cooperative which could not expand its business due to a shortage of sewing needles. The needles imported from Eastern European countries break too often because they are the wrong size. We visited a textile factory where an old North American boiler runs the heart of the operation. When it breaks down, spare parts are hard to come by. This impinges on production.

Medical supplies are in short supply at hospitals and health clinics. We saw surgical gloves that were being reused due to a shortage. In another room, a kidney dialysis machine has been dormant for the past nine months due to the lack of parts. Spare parts can be obtained through other countries. However, these parts have to be bought with hard currency; with a high inflation rate this is very difficult to do. At our sister city's health center in Niquinohomo, there is a shortage of all kinds of medicines, especially pain medications.

Between the Contra War and the trade embargo, which includes a freeze on loans, Nicaragua is suffering a most cruel fate. The low-intensity warfare as prescribed by the Reagan Administration is prevalent everywhere.

Add to these the third factor of past mistakes in the economic policies of the Government. As an example, the Government fixed prices too low creating a disincentive to produce. Another mistake was that the Government was subsidizing too many goods and services which added to the inflation problem. The Government recognizes these problems and it is trying to rectify them.

Our conclusion is that virtually no one in Nicaragua agrees with the trade embargo, confirmed in our discussions with campesinos as well as with members of the Conservative Party. We saw very little support for the Contras amongst the general population.

The people of Nicaragua make a distinction between the policies of the United States Government and the American people. They like our culture. They wish to be trading partners. They wish to be non-aligned. They have a mixed economy including collectives and private ownership of land.

On the faces of the Nicaraguan people, we saw the weariness of war. Besides the 50,000 Nicaraguans who died during the Revolution, another 40,000 have died since the Contra War began under the direct guidance of the United States Government.

We ask that the Congress catch up with the majority of the American people and other nations of the world and support the Arias Peace Plan.

Lastly, in the name of humanity, we ask you to stop all funding for the Contras, lift the trade embargo and let Nicaragua live in peace.

Respectfully submitted,

MARTIN LEPKOWSKI,
West Kingston, RI.
ELIZABETH DIAZ,
Narragansett, RI.
REV. PATRICIA LIBERTY
JONES,
Warwick, RI.
REV. DAEMILES HAYES,
Providence, RI.
ROBERTA AARONSON,
Providence, RI. ●

JUSTICE SCALIA'S MISUNDERSTANDING

● Mr. CRANSTON. Mr. President, as Senators are currently so occupied with the issue of judicial judgment, I'd like to share with my colleagues a fascinating article entitled "Justice Scalia's Misunderstanding" which appeared in the October issue of *Natural History*. The author, Stephen Jay Gould, is a well-known teacher of science at Harvard University and certainly one of the most brilliant and popular writers about science that our Nation has ever produced.

Professor Gould examines Justice Antonin Scalia's dissent in the Supreme Court's recent striking down by a 7-to-2 vote of Louisiana's statute involving the teaching of creationist "science." Chief Justice William Rehnquist joined in Justice Scalia's dissent. Gould argues that Justice Scalia's dissenting argument was based on a fundamental misunderstanding of the nature of the science of evolution.

I think the article should enhance our understanding of two points:

First. That the Biblical account of creation, while perfectly valid as a theory which anyone has the right to believe and teach, does not qualify as a science.

Second. That the rendering of justice requires not only knowledge of the law but also a mastery of the subject being litigated.

I ask that Jay Gould's article appear in the RECORD.

The article follows:

JUSTICE SCALIA'S MISUNDERSTANDING

(By Stephen Jay Gould)

Charles Lyell, defending both his version of geology and his designation of James Hutton as its intellectual father, described Richard Kirwan as a man "who possessed much greater authority in the scientific world than he was entitled by his talents to enjoy."

Kirwan, chemist, mineralogist, and president of the Royal Academy of Dublin, did not incur Lyell's wrath for a mere scientific disagreement, but for saddling Hutton with the most serious indictment of all—atheism and impiety. Kirwan based his accusations on the unlikely charge that Hutton had placed the earth's origin beyond the domain of what science could consider or (in a stronger claim) had even denied that a point of origin could be inferred at all. Kirwan wrote in 1799:

"Recent experience has shown that the obscurity in which the philosophical knowledge of this [original] state has hitherto been involved, has proved too favorable to the structure of various systems of atheism or infidelity, as these have been in their turn to turbulence and immorality, not to endeavor to dispel it by all the lights which modern geological researchers have struck out. Thus it will be found that geology naturally ripens . . . into religion, as this does into morality."

In our more secular age, we may fail to grasp the incendiary character of such a charge at the end of the eighteenth century, when intellectual respectability in Britain absolutely demanded an affirmation of religious fealty, and when fear of spreading revolution from France and America equated any departure from orthodoxy with encouragement of social anarchy. Calling someone an atheist in those best and worst of all times invited the same predictable reaction as asking Cyrano how many sparrows had perched up there or standing up in a Boston bar and announcing that DiMaggio was a better hitter than Williams.

Thus, Hutton's champions leaped to his defense, first his contemporary and Boswell, John Playfair, who wrote (in 1802) that—

"... such poisoned weapons as he [Kirwan] was preparing to use, are hardly ever allowable in scientific contest, as having a less direct tendency to overthrow the system, than to hurt the person of an adversary, and to wound, perhaps incurably, his mind, his reputation, or his peace."

Thirty years later, Charles Lyell was still fuming:

"We cannot estimate the malevolence of such a persecution, by the pain which similar insinuations might now inflict; for although charges of infidelity and atheism must always be odious, they were injurious in the extreme at that moment of political excitement" [*Principles of Geology*, 1830].

(Indeed, Kirwan noted that his book had been ready for the printers in 1798 but had been delayed for a year by "the confusion arising from the rebellion then raging in Ireland"—the great Irish peasant revolt of 1798, squelched by Viscount Castlereagh, uncle of Darwin's Captain FitzRoy.)

Kirwan's accusation centered upon the last sentence of Hutton's *Theory of the Earth* (original version of 1788)—the most famous words ever written by a geologist (quoted in all textbooks, and often emblazoned on the coffee mugs and T-shirts of my colleagues).

"The result, therefore, of our present enquiry is, that we find no vestige of a beginning—no prospect of an end."

Kirwan interpreted both this motto, and Hutton's entire argument, as a claim for the earth's eternity (or at least as a statement of necessary agnosticism about the nature of its origin). But if the earth be eternal, then God did not make it. And if we need no God to fashion our planet, then do we need him at all? Even the weaker version of Hutton as agnostic about the earth's origin supported a charge of atheism in Kirwan's view—for if we cannot know that God made the earth at a certain time, then biblical authority is dethroned, and we must wallow in uncertainty about the one matter that demands our total confidence.

It is, I suppose, a testimony to human carelessness and to our tendency to substitute quips for analysis that so many key phrases, the mottoes of our social mythology, have standard interpretations quite contrary to their intended meanings. Kirwan's reading has prevailed. Most geologists still think that Hutton was advocating an earth of unlimited duration—though we now view such a claim as heroic rather than impious.

Yet Kirwan's charge was more than merely vicious—it was dead wrong. Moreover, in understanding why Kirwan erred (and why we still do), and in recovering what Hutton really meant, we illustrate perhaps the most important principle that we can state about science as a way of knowing. Our failure to grasp the principle underlies much public misperception about science. In particular, Justice Scalia's recent dissent in the Louisiana "creation science" case rests upon this error when it discusses the character of evolutionary arguments. We all rejoiced when the Supreme Court ended a long episode in American history and voided the last law that would have forced teachers to "balance" instruction in evolution with fundamentalist biblical literalism masquerading under the oxymoron creation science. I now add a tiny hurrah in postscript by pointing out that the dissenting argument rests, in large part, upon a misunderstanding of science.

Hutton replied to Kirwan's original attack by expanding his 1788 treatise into a cumbersome work, *The Theory of the Earth* (1795). With its forty-page quotations in French and its repetitive, involuted justifications, Hutton's new work condemned his theory to unreadability. Fortunately, his friend John Playfair, a mathematician and outstanding prose stylist, composed the most elegant pony ever written and published his *Illustrations of the Huttonian Theory of the Earth* in 1802. Playfair presents a two-part refutation for Kirwan's charge of atheism.

1. Hutton neither argued that the earth was eternal nor even claimed that we could say nothing about its origin. In his greatest contribution, Hutton tried to develop a cyclical theory for the history of the earth's

surface, a notion to match the Newtonian vision of continuous planetary revolution about the sun. The materials of the earth's surface, he argued, passed through a cycle of perfect repetition in the large. Consider the three major stages. First, mountains erode and their products are accumulated as thick sequences of layered sediments in the ocean. Second, sediments consolidate and their weight melts the lower layers, forming magmas. Third, the pressure of these magmas forces the sediments up to form new mountains (with solidified magmas at their core), while the old, eroded continents become new ocean basins. The cycle then starts again as mountains (at the site of old oceans) shed their sediments into ocean basins (at the site of old continents). Land and sea change positions in an endless dance, but the earth itself remains fundamentally the same. Playfair writes:

"It is the peculiar excellence of this theory . . . that it makes the decay of one part subservient to the restoration of another, and gives stability to the whole, not by perpetuating individuals, but by reproducing them in succession."

We can easily grasp the revolutionary nature of this theory for concepts of time. Most previous geologies had envisioned an earth of short duration, moving in a single irreversible direction, as its original mountains eroded into the sea. By supplying a "concept of repair" in his view of magmas as uplifting forces, Hutton burst the strictures of time. No more did continents erode once into oblivion; they could form anew from the products of their own decay and the earth could cycle on and on.

This cyclical theory has engendered the false view that Hutton considered the earth eternal. True, the mechanics of the cycle provide no insight into beginnings or ends, for laws of the cycle can only produce a continuous repetition and therefore contain no notion of birth, death, or even of aging. But this conclusion only specifies that laws of the *present order* of nature cannot specify beginnings or ends. Beginnings and ends may exist—in fact, Hutton considered a concept of starts and stops absolutely essential for any rational understanding—but we cannot learn anything about this vital subject from nature's present laws. Hutton, who was a devoted theist despite Kirwan's charge, argued that God had made a beginning, and would ordain an end, by summoning forces outside the current order of nature. For the stable period between, he had ordained laws that impart no directionality and therefore permit no insight into these beginnings and ends.

Note how carefully Hutton chose the words of his celebrated motto. "No vestige of a beginning" because the earth has been through so many cycles since then that all traces of its original state have vanished. But an original state is certainly had. "No prospect of an end" because the current laws of nature provide no insight into a termination that must surely occur. Playfair describes Hutton's view of God:

"He may put an end, as he no doubt gave a beginning, to the present system, at some determinate period; but we may safely conclude, that this great catastrophe will not be brought about by any of the laws now existing, and that it is not indicated by any thing which we perceive."

2. Hutton did not view our inability to specify beginnings and ends as a baleful limitation of science but as a powerful affirmation of proper scientific methodology. Let

theory deal with ultimate origins, and let science be the art of the empirically soluble.

The British tradition of speculative geology—from Burnet, Whiston, and Woodward in the late seventeenth century to Kirwan himself at the tail end of the eighteenth—had focused upon reconstructions of the earth's origin, primarily to justify the Mosaic narrative as scientifically plausible. Hutton argued that such attempts could not qualify as proper science, for they could only produce speculations about a distant past devoid of evidence to test any assertion (no vestige of a beginning). The subject of origins may be vital and fascinating, far more compelling than the humdrum of quotidian forces that drive the present cycle of uplift, erosion, deposition, and consolidation. But science is not speculation about unattainable ultimates; it is a way of knowing based upon laws now in operation and results subject to observation and inference. We acknowledge limits in order to proceed with power and confidence.

Hutton therefore attacked the old tradition of speculation about the earth's origin as an exercise in futile unprovability. Better to focus upon what we can know and test, leaving aside what the methods of science cannot touch, however fascinating the subject. Playfair stresses this theme more forcefully (and more often) than any other in his exposition of Hutton's theory. He regards Hutton's treatise as, above all, an elegant statement of proper scientific methodology—and he locates Hutton's wisdom primarily in his friend's decision to eschew the subject of ultimate origins and to focus on the earth's present operation. Playfair begins by criticizing the old manner of theorizing:

"The sole object of such theories has hitherto been, to explain the manner in which the present laws of the mineral kingdom were first established, or began to exist, without treating of the manner in which they now proceed."

He then evaluates this puerile strategy in one of his best prose flourishes:

"The absurdity of such an undertaking admits of no apology; and the smile which it might excite, if addressed merely to the fancy, gives place to indignation when it assumes the air of philosophic investigation."

Hutton, on the other hand, established the basis of a proper geological science by avoiding subjects "altogether beyond the limits of philosophical investigation." Hutton's explorations "never extended to the first origin of substances, but were confined entirely to their changes." Playfair elaborated:

"He has indeed nowhere treated of the first origin of any of the earths, or of any substance whatsoever, but only of the transformations which bodies have undergone since the present laws of nature were established. He considered this last as all that a science, built on experiment and observation, can possibly extend to; and willingly left, to more presumptuous inquirers, the task of carrying their reasonings beyond the boundaries of nature."

Finally, to Kirwan's charge that Hutton had limited science by his "evasion" of origins, Playfair responded that his friend had strengthened science by his positive program of studying what could be resolved:

"Instead of an evasion, therefore, any one who considers the subject fairly, will see, in Dr. Hutton's reasoning, nothing but the caution of a philosopher, who wisely confines his theory within the same limits by which nature has confined his experience and observation."

This all happened a long time ago and in a context foreign to our concerns. But Hutton's methodological wisdom, and Playfair's eloquent warning, could not be more relevant today—for basic principles of empirical science do have an underlying generality that can transcend time. Practicing scientists have largely (but not always) imbibed Hutton's wisdom about restricting inquiry to questions that can be answered. But Kirwan's error of equating the best in science with the biggest questions about ultimate things continues to be the most common of popular misunderstandings.

I have often mentioned that fifteen years of monthly columns have brought me an enormous correspondence from nonprofessionals about all aspects of science. From sheet volume, I obtain a pretty good sense of strengths and weaknesses in public perceptions. I have found that one common misconception surpasses all others. People will write, telling me that they developed a revolutionary theory, one that will expand the boundaries of science. These theories, usually described in several pages of single-spaced typescript, are speculations about the deepest ultimate questions we can ask—what is the nature of life? the origin of the universe? the beginning of time?

But thoughts are cheap. Any person of intelligence can devise his half dozen before breakfast. Scientists can also spin out ideas about ultimates. We don't (or, rather, we confine them to our private thoughts) because we cannot devise ways to test them, to decide whether they are right or wrong. What good to science is a lovely idea that cannot, as a matter of principle, ever be affirmed or denied?

The following homily may seem paradoxical but it embodies Hutton's wisdom: the best science often proceeds by putting aside the overarching generality and focusing instead on a smaller question that can be reliably answered. In so doing, scientists show their intuitive feel for the fruitful, not the narrowness or paltriness of spirit. In this way we sneak up on big questions that only repel us if we try to engulf them in one fell speculation. Newton could not discover the nature of gravity, but he could devise a mathematics that unified the motion of a carriage with the revolution of the moon. Darwin never tried to grasp the meaning of life (or even the manner of its origin on our planet), but he did develop a powerful theory to explain its manner of change through time. Hutton did not discover how our earth originated, but he developed some powerful and testable ideas about how it ticked. You might almost define a good scientist as a person with the horse sense to discern the largest answerable question—and to shun useless issues that sound bigger.

Hutton's positive principle of restriction to the doable also defines the domain and procedures of evolutionary biology, my own discipline. Evolution is not the study of life's ultimate origin as a path toward discerning its deepest meaning. Evolution, in fact, is not the study of origins at all. Even the more restricted (and scientifically permissible) question of life's origin on our earth lies outside its domain. (This interesting problem, I suspect, falls primarily within the purview of chemistry and the physics of self-organizing systems.) Evolution studies the pathways and mechanisms of organic change following the origin of life. Not exactly a shabby subject either—what with such resolvable questions as "how, when, and where did humans evolve?"; "how do mass extinction, continen-

tal drift, competition among species, climatic change, and inherited constraints of form and development interact to influence the manner and rate of evolutionary change?"; "how do the branches of life's tree fit together?" to mention just a few among thousands equally exciting.

In their recently aborted struggle to inject Genesis literalism into science classrooms, fundamentalist groups followed their usual opportunistic strategy of arguing two contradictory sides of a question when a supposed rhetorical advantage could be extracted from each. Their main pseudoargument held that Genesis literalism is not religion at all, but really an alternative form of science (creation science) not acknowledged by professional biologists too hidebound and dogmatic to appreciate the cutting edge of their own discipline. When we successfully pointed out that creation science—as an untestable set of dogmatic proposals—could not qualify as science by any standard definition, they turned around and shamelessly argued the other side. (They actually pulled off the neater trick of holding both positions simultaneously.) Now they argued that, yes indeed, creation science is religion, but evolution is equally religious.

To support this dubious claim, they tumbled (as a conscious trick of rhetoric, I suspect) right into Kirwan's error. They ignored what evolutionists actually do and misrepresented our science as the study of life's ultimate origin. They then pointed out, as Hutton had, that questions of ultimate origins are not resolvable by science. Thus, they claimed, creation science and evolution science are symmetrical—that is, equally religious. Creation science isn't science because it rests upon the untestable fashioning of life *ex nihilo* by God. Evolution science isn't science because it tries, as its major aim, to resolve the unresolvable and ultimate origin of life. But we do no such thing. We understand Hutton's wisdom—"he has nowhere treated of the first origin . . . of any substance . . . but only of the transformations which bodies have undergone. . . ."

Our legal battle with creationists started in the 1920s and reached an early climax with the conviction of John Scopes in 1925. After some quiescence, it began in earnest again during the 1970s and has haunted us ever since. (I have written more than half a dozen essays, most in this series, on the resurgence of creation science.) Finally, in June 1987, the Supreme Court ended this major chapter in American history with a decisive 7-2 vote, striking down the last creationist statute, the Louisiana equal time act, as a ruse to inject religion into science classrooms in violation of first amendment guarantees for separation of church and state.

I don't mean to appear ungrateful, but we fallible humans are always seeking perfection in others. I couldn't help wondering how two justices could have ruled the other way. I may not be politically astute, but I am not totally naive either. I have read Justice Scalia's long dissent carefully, and I recognize that its main thrust lies in legal issues supporting the extreme judicial conservatism espoused by Scalia and the other dissenter, Chief Justice Rehnquist. Nonetheless, though it may form only part of his rationale, Scalia's argument relies crucially upon a false concept of science—Kirwan's error again. I regret to say that Justice Scalia does not understand the subject matter of evolutionary biology. He has

simply adopted the creationists' definition and thereby repeated their willful mistake.

Justice Scalia writes, in his key statement of scientific evidence:

"The people of Louisiana, including those who are Christian fundamentalists, are quite entitled, as a secular matter, to have whatever scientific evidence there may be against evolution presented in their schools."

I simply don't see the point of this statement. Of course they are so entitled, and absolutely nothing prevents such a presentation, if evidence there be. The equal time law forces teaching of creation science, but nothing prevented it before, and nothing prevents it now. Teachers were, and still are, free to teach creation science. They don't because they know that it is a ruse and a sham.

Scalia does acknowledge that the law would be unconstitutional if creation science is free of evidence—as it is—and if it merely restates the Book of Genesis—as it does:

"Perhaps what the Louisiana Legislature has done is unconstitutional because there is no such evidence, and the scheme they have established will amount to no more than a presentation of the Book of Genesis."

Scalia therefore admits that the issue is not merely legal and does hinge on a question of scientific fact. He then buys the creationist argument and denies that we have sufficient evidence to render this judgment of unconstitutionality. Continuing directly from the last statement, he writes:

"But we cannot say that on the evidence before us . . . infinitely less can we say (or should we say) that the scientific evidence for evolution is so conclusive that no one would be gullible enough to believe that there is any real scientific evidence to the contrary."

But this is exactly what I, and all scientists, do say. We are not blessed with absolute certainty about any fact of nature, but evolution is as well confirmed as anything we know—surely as well as the earth's shape and position (and we don't require equal time for flat earthers and those who believe that our planet resides at the center of the universe). We have oodles to learn about how evolution happened, but we have adequate proof that living forms are connected by bonds of genealogical descent.

So I asked myself, how could Justice Scalia be so uninformed about the state of our basic knowledge? And then I remembered something peculiar that bothered me, but did not quite register, when I first read his dissent. I went back to his characterization of evolution and what did I find (repeated, by the way, more than a dozen times, so we know that it represents no one-time slip of his pen, but a consistent definition).

Justice Scalia has defined evolution as the search for life's origin—and nothing more. He keeps speaking about "the current state of scientific evidence about the origin of life" when he means to designate evolution. He writes that "the legislature wanted to ensure that students would be free to decide for themselves how life began based upon a fair and balanced presentation of the scientific evidence." Never does he even hint that evolution might be the study of how life changes after it originates—the entire panoply of transformation from simple molecules to all modern, multicellular complexity.

Moreover, to make matters worse, Scalia doesn't even acknowledge the scientific side

of the origin of life on earth. He argues that a creationist law might have a secular purpose so long as we can envisage a concept of creation not involving a personal God "who is the object of religious veneration." He then points out that many such concepts exist, stretching back to Aristotle's notion of an unmoved mover. In the oral argument before the Court, which I attended on December 10, 1986, Scalia pressed this point even more forcefully with counsel for our side. He sparred:

"What about Aristotle's view of a first cause, an unmoved mover? Would that be a creationist view? I don't think Aristotle considered himself as a theologian as opposed to a philosopher."

"In fact, he probably considered himself a scientist. . . . Well, then, you could believe in a first cause, an unmoved mover, that may be impersonal, and has no obligation of obedience or veneration from men, and in fact, doesn't care what's happening to mankind. And believe in creation." [From the official transcript, and omitting the responses of our lawyer.]

Following this theme, Scalia presents his most confused statement in the written dissent:

"Creation science, its proponents insist, no more must explain whence life came than evolution must explain whence came the inanimate materials from which it says life evolved. But even if that were not so, to posit a past creator is not to posit the eternal and personal God who is the object of religious veneration."

True indeed; one might be a creationist in some vernacular sense by maintaining a highly abstract and impersonal view of the creator. But Aristotle's unmoved mover is no more part of science than the Lord of Genesis. Science does not deal with questions of ultimate origins. We would object just as strongly if the Aristotelophiles of Delaware forced a law through the state legislature requiring that creation of each species *ex nihilo* by an unmoved mover be presented every time evolution is discussed in class. The difference is only historical circumstance, not the logic of argument. The unmoved mover doesn't pack much political punch; fundamentalism ranks among our most potent irrationalisms.

Consider also, indeed especially, Scalia's false concept of science. He equates creation and evolution because creationists can't explain life's beginning, while evolutionists can't resolve the ultimate origin of the inorganic components that later aggregated to life. But this inability is the very heart of creationist logic and the central reason why their doctrine is not science, while science's inability to specify the ultimate origin of matter is irrelevant because we are not trying to do any such thing. We know that we can't, and we do not even consider such a question as part of science.

We understand Hutton's wisdom. We do not search for unattainable ultimates. We define evolution, using Darwin's phrase, as "descent with modification" from prior living things. Our documentation of life's evolutionary tree records one of science's greatest triumphs, a profoundly liberating discovery on the oldest maxim that truth can make us free. We have made this discovery by recognizing what can be answered and what must be left alone. If Justice Scalia heeded our definitions and our practices, he would understand why creationism cannot qualify as science. He would also, by the way, sense the excitement of evolution and its evidence; no person of substance

could be unmoved by something so interesting. Only Aristotle's creator may be so impassive.

Don Quixote recognized "no limits but the sky," but became thereby the literary embodiment of unattainable reverie. G.K. Chesterton understood that any discipline must define its borders of fruitfulness. He spoke for painting, but you may substitute any creative enterprise: "Art is limitation: the essence of every picture is the frame." ●

THE AMERICAN LEGION LEGISLATIVE PRIORITIES HEARING

● Mr. MURKOWSKI. Mr. President, this morning the Senate Committee on Veterans' Affairs held a hearing to receive testimony on the legislative priorities of the American Legion. Mr. Jack Comer made his first appearance before the committee in his capacity as the national commander. Commander Comer was accompanied by Pearl Behrend, the president of the American Legion Auxiliary, as well as Legionnaires from across our Nation.

As ranking minority member of the committee, I deeply regret that, due to other commitments, I was unable to attend the hearing. However, for the record, I would like to express some thoughts on the tremendous contributions made by the American Legion. I note with deep regret the absence of my friend and colleague, Bob Blair, of Kodiak, AK, named the outstanding American Legionnaire for 1987. Bob died 2 weeks ago at this home in Kodiak. His dedication to his family—and the 18 orphaned children to whom he gave a home—his community, and his country were reflected in his service to the American Legion. Bob epitomized the spirit of the Legion and we are better for his service to his fellow veterans.

I wish to commend the Legion and its fine staff for its dedication to veterans and skilled advocacy on their behalf. Mylio Kraja, the executive director, Phil Riggan, and Bob Lyngh, and the rest of the fine Washington staff, have, in their skillful work with the Members and staff of the Congress, created an enviable record for themselves and for the American Legion. I would also like to commend the Legion service officers, such as Shorty Oliver—who traveled from Anchorage—whose work on behalf of veterans has done so much to ensure the system serves well those who served the Nation so well—our veterans.

America can learn much from the service officers of the American Legion. They are always available, without charge, to help their fellow veterans. They are knowledgeable and skillful; and, when necessary, tough and aggressive advocates of the veterans they serve. At a time when our country and an enlightened legal community are looking for a way to resolve disputes without resorting to the expense and delay of lawsuits, I be-

lieve there is much to be learned about advocacy and representation from the VA and the service officers of organization such as the American Legion.

In the months and years ahead, the Congress will face enormous and perhaps unprecedented challenges. I am confident that the Congress—with the assistance of the American Legion—can arrive at thoughtful and responsible solutions which will meet our commitments to America's veterans for quality health care and a system of veterans' benefits which is second to none.

The Legion, with over 2 million members and posts in virtually every community in America can and do make the difference.

An important priority of mine in the coming year is to elevate the Veterans' Administration to the President's Cabinet. Once a Secretary of Veterans' Affairs sits at the Cabinet table, we will have done much to ensure that the Nation's program for veterans will continue to enjoy the high priority veterans have earned through their service.●

TRIBUTE TO HENRY TAUB

● Mr. LAUTENBERG. Mr. President, I wish to pay tribute to a dear and close friend and a great humanitarian, Henry Taub.

I have known Henry since 1949. In 1952, I joined him and his brother Joe at a small company that struggled to make a business out of payroll processing. That small company became Automatic Data Processing, Inc. Henry still serves on its board.

Henry Taub is the epitome of the self-made man. He is the son of Polish immigrants who worked in the Paterson silk mills. He studied accounting at New York University, paying for his education partly by working part-time for a small accounting firm.

In those days there were no firms around to handle a company's payroll. In most firms, a head bookkeeper had to take care of the payroll, or the employer personally wrote out the checks to his employees. One day on the job, an accountant at that time, Henry was notified that a client's bookkeeper was ill and Henry himself would have to prepare the checks for the firm's employees. That gave Henry the idea that a tremendous need could be filled by a company that specialized in processing the payrolls of other businesses, delivering employees' checks, and handling other employee records.

In 1949, Henry and Joe Taub started out in the basement of a small hotel in Paterson, NJ. Joe and Henry worked days and nights to process payrolls, delivering them on time, accurately, and at an attractive price for the client. How that small business grew into a pioneering computer service company is a part of American busi-

ness history. It is a story of perseverance; a story of how technology, when harnessed and managed can bring great economic growth; and it is a story of how the human element can never be ignored. Because, as much as ADP relied upon computer development, it relied upon the effective motivation and management of its people.

Today, ADP is the largest computer services company in the world. It helped develop a new industry that employs almost a million people and brought economic growth to our State and the Nation. ADP now employs over 5,000 people in New Jersey and 20,000 in total. We came a long way from a Paterson basement.

Despite his enormous success, Henry has never forgotten his modest beginnings. Henry has always had a deep concern for those less fortunate, and has dedicated a significant part of his time, energy, and resources, to help others. Henry has provided substantial support to the Joint Distribution Committee, an international organization concerned with the welfare needs of Jews around the world. Among his honors, Henry received an honorary degree from Technion Institute of Technology in Israel.

One of things that makes Henry so special is that he is not the kind of man to sit back when he sees a problem that needs solving. He was convinced that business could play as great a role as government in reducing unemployment and breaking the cycle of poverty.

So, Henry set about to find new ways to provide jobs for economically disadvantaged residents of New Jersey. As a result, he created two of New Jersey's most successful job training programs for the poor. In 1979, Henry established the Business Employment Foundation, sensing that the greatest need for job training rested in urban areas.

These programs are aimed at employing inner city residents of Paterson, one of New Jersey's poorest cities. The Paterson program, which trains economically disadvantaged residents in the clerical and health fields, has become a way out of poverty for hundreds of Paterson residents and their families. About 90 percent of the graduates of the Paterson program are black or Hispanic, and almost 90 percent are women. Today the programs have successfully recruited, trained, and placed about 1,000 people for jobs with area companies, hospitals, and health care facilities.

Mr. President, Henry Taub is celebrating his 60th birthday on Sunday. But he shows no sign of slowing down. He has so much more to accomplish and contribute to business and to the public. I pay tribute to my friend and colleague.●

ORDER OF BUSINESS

Mr. BYRD. Mr. President, these two requests have been cleared on the other side.

ORDER TO PLACE H.R. 442 ON THE CALENDAR

Mr. BYRD. Mr. President, I ask unanimous consent that H.R. 442 just received from the House of Representatives be placed on the calendar.

The PRESIDING OFFICER. Without objection, it is so ordered.

HATFIELD-KENNEDY AMENDMENT TO DOD BILL

Mr. BYRD. Mr. President, I ask unanimous consent that in the list of amendments to the DOD authorization bill on which there are time agreements, the amendment listed as Kennedy-Hatfield nuclear testing be corrected to read Hatfield-Kennedy nuclear testing.

The PRESIDING OFFICER. Without objection, it is so ordered.

ORDER OF PROCEDURE

Mr. BYRD. Mr. President, does the distinguished acting Republican leader, Mr. WARNER, have anything further he wishes to say or any business to transact?

Mr. WARNER. Mr. President, I am advised by the Republican leader that there is no further business on this side of the aisle, and I simply conclude by saying to the distinguished majority leader we have had what he would call a good day in the Senate and progress has been made on this bill, and we will return tomorrow and hopefully have comparable progress, but I understand that there may be other legislative matters necessitating the temporary laying aside of the pending matter.

Mr. BYRD. Yes, Mr. President.

I thank the distinguished acting leader, Mr. WARNER.

May I say that the progress made today is attributable in considerable part to the actions of the distinguished Senator from Virginia [Mr. WARNER].

PROGRAM

Mr. BYRD. Mr. President, the Senate will come in at 8:20 a.m. tomorrow. The two leaders will have their orders reduced to 5 minutes each and at the conclusion of the 10 minutes the Senate will proceed to the consideration of the unfinished business. That will be around 8:30 a.m. At that time I will suggest the absence of a quorum and I will request the yeas and nays on a motion to instruct the Sergeant at Arms to request the attendance of absent Senators. That

rollcall vote, therefore, will begin about 8:30 a.m. and I will not ask for the regular order, that being early in the morning and being the first rollcall vote of the day until about 30 minutes have elapsed.

So, at around 9 o'clock, I will send the conference report to the desk, or Mr. BENTSEN or someone will, and, that being a privileged matter, that will be taken up. That will not be debatable. And for the time being, while the Senate is on that conference report, the DOD authorization bill will be temporarily held in abeyance.

There is no time agreement on the conference report, but I hope that the Senate would act expeditiously on the matter. The deadline for the cost debt limit extension will expire tomorrow evening at midnight.

Upon the disposition of the conference report, the Senate then will return to the unfinished business, the Department of Defense authorization bill. Hopefully, that will be early enough in the day that other votes may be had on amendments to the DOD authorization bill.

In any event, if any rollcall votes are ordered after 6 o'clock tomorrow, those rollcall votes will be held over

until 6 p.m. on Thursday. This is being done in recognition of the religious holiday, Rosh Hashanah.

But I say again, as I have said several times heretofore, that the Senate will continue working tomorrow evening after 6 p.m., and will be working early and throughout the day on Thursday.

RECESS UNTIL 8:20 A.M. TOMORROW

Mr. BYRD. Mr. President, if there be no further business to come before the Senate, I move, in accordance with the order previously entered, that the Senate stand in recess until the hour of 8:20 a.m. tomorrow.

The motion was agreed to; and, at 7:10 p.m., the Senate recessed until Wednesday, September 23, 1987, at 8:20 a.m.

NOMINATIONS

Executive nominations received by the Secretary of Senate September 21, 1987, under authority of the order of the Senate of February 3, 1987:

DEPARTMENT OF STATE

CHARLES FRANKLIN DUNBAR, OF MAINE, A CAREER MEMBER OF THE SENIOR FOREIGN SERVICE, CLASS OF MINISTER-COUNSELOR, TO BE AMBASSADOR EXTRAORDINARY AND PLENIPOTENTIARY OF THE UNITED STATES OF AMERICA TO THE YEMEN ARAB REPUBLIC.

UNITED NATIONS

WILLIAM W. TREAT, OF NEW HAMPSHIRE, TO BE AN ALTERNATE REPRESENTATIVE OF THE UNITED STATES OF AMERICA TO THE 42ND SESSION OF THE GENERAL ASSEMBLY OF THE UNITED NATIONS.

INTERNATIONAL MONETARY FUND

ALAN GREENSPAN, OF NEW YORK, TO BE U.S. ALTERNATE GOVERNOR OF THE INTERNATIONAL MONETARY FUND FOR A TERM OF 5 YEARS, VICE PAUL A. VOLCKER, RESIGNED.

DEPARTMENT OF THE TREASURY

O. DONALDSON CHAPOTON, OF TEXAS, TO BE AN ASSISTANT SECRETARY OF THE TREASURY, VICE J. ROGER MENTZ, RESIGNED.

DEPARTMENT OF THE INTERIOR

HENRY M. VENTURA, OF CALIFORNIA, TO BE AN ASSISTANT SECRETARY OF THE INTERIOR, VICE GERALD RALPH RISO.

DEPARTMENT OF TRANSPORTATION

ALFRED A. DELLIBOVI, OF NEW YORK, TO BE URBAN MASS TRANSPORTATION ADMINISTRATOR, VICE RALPH LESLIE STANLEY, RESIGNED.

POSTAL RATE COMMISSION

WILLIAM H. LEBLANC III, OF LOUISIANA, TO BE A COMMISSIONER OF THE POSTAL RATE COMMISSION FOR THE REMAINDER OF THE TERM EXPIRING NOVEMBER 22, 1988, VICE HENRIETTA FAYE GUITON, RESIGNED.